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June 1994

NEW ENGLAND TRANSPORTATION INITIATIVE

FINAL

Transportation Forecasts, Goals and Objectives, and Issues of Regional Significance

Executive Summary and Comments

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Consultant Team

Cambridge Systematics, Inc.
Vanasse Hangen Brustlin, Inc.
Parsons Brinckerhoff Quade & Douglas, Inc.
Howard/Stein-Hudson Associates, Inc.
Wallace, Floyd, Associates, Inc.
Hoyle, Tanner and Associates, Inc.
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Executive Summary and Comments

June 1994

States' Project Manager

Massachusetts Executive Office of
Transportation and Construction
Charles Repeta, NETI Project Manager

Consultant Project Manager

Cambridge Systematics, Inc.
Marc Cutler, Vice President

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New Hampshire, Rhode Island, Vermont,
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Consultant Team

Cambridge Systematics, Inc.
150 CambridgePark Drive, Suite 4000
Cambridge, Massachusetts 02140

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Parsons Brinckerhoff Quade & Douglas, Inc.
Howard/Stein-Hudson Associates, Inc.
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Comments

Policy Committee

Peter Szabo
Deputy Commissioner for Planning and Policy
Connecticut Department of Transportation

Joe Belanger
Director of Planning and Standards
Connecticut Environmental Protection Agency

Gedeon Picher
Director, Office of Policy Analysis
Maine Department of Transportation

Dennis Coffey
Director of Railroad Policy
Massachusetts Executive Office of Transportation and Construction

Sonia Hamel
Director of Air Policy and Planning
Massachusetts Executive Office of Environmental Affairs

Charles O'Leary
Commissioner
New Hampshire Department of Transportation

Edmund Parker, Jr.
Chief Design Engineer
Rhode Island Department of Transportation

Lloyd Robinson
Deputy Secretary
Vermont Agency of Transportation

Alan Davis
Commissioner
Vermont Department of Economic Development

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List of Authors

Project Manager, Editor, Goals and Objectives, Issues of Regional Significance, Executive Summary	- Marc Cutler, Cambridge Systematics - Elizabeth Peart, Cambridge Systematics
Graphics/GIS	- Susan Caruso, Cambridge Systematics Elizabeth Harper, Cambridge Systematics Tom Grayson, Cambridge Systematics Katherine Wilkins, Cambridge Systematics Ray Hebert, Cambridge Systematics
Institutional/Organizational	- Thomas Humphrey, Cambridge Systematics
Highways	- David Bohn, Vanasse Hangen Brustlin, Inc. Paul B. Smith, Vanasse Hangen Brustlin,Inc.
Intercity Buses	- Elizabeth Peart, Cambridge Systematics
Motor Carriers	- Carol Colman, Cambridge Systematics
Railroads	- John Harrison, Parsons Brinckerhoff Jan Okolowicz, Parsons Brinckerhoff Marcus Evans, Parsons Brinckerhoff
Airports	- J. Richard Ludders, Hoyle Tanner Associates Joakim Karlsson, Hoyle Tanner Associates
Ports	- William Twomey, TAMS Consultants, Inc. Gerald Friedman, TAMS Consultants. Inc. Nathan Cherry, TAMS Consultants, Inc.
Trends in Commuter Behavior	- Elizabeth Peart, Cambridge Systematics
Economics	- John Reed, Cambridge Systematics Debby Carr, Cambridge Systematics
Air Quality and Energy	- John Suhrbier, Cambridge Systematics Tom Wholley, Vanasse Hangen Brustlin, Inc.
Land Use	- James Purdy, Wallace Floyd Associates Carole Schlessinger, Wallace Floyd Associates
Public Participation	- Kathy Stein-Hudson, Howard/Stein-Hudson Anne McKinnon, Howard/Stein-Hudson
NETI Librarian	- Jocelyn Shepard, Cambridge Systematics

Introduction

This is the final draft report of the New England Transportation Initiative (NETI) Project. NETI is a cooperative transportation planning study sponsored by the six New England states. This report proposes the goals and objectives of the study; issues of regional significance to be addressed; and forecasts of future conditions. It builds on the work presented in the Inventory Draft Report and comments received from the Policy Committee and the New England Regional Technical Advisory Committee (NERTAC). Two additional reports are to follow: Alternative Scenario Definition and Policy and Technical Analysis.

The first part of this report recommends the goals and objectives of the NETI project. This defines the overriding focus of study. The second part, issues of regional significance, identifies the key issues in each mode or subject which should be the focus of NETI analysis within the context of the goals and objectives. Given the limited resources of the NETI study, it is critical that the project be focused in this manner before additional analysis proceeds.

The third part takes the data gathered in the inventory task and attempts to forecast future trends. This will serve as the basis for Task 6 – the development of three alternative scenarios. It should be stressed that these forecasts are intended only to provide an empirical basis for the development of the scenarios, and do not constitute the scenarios themselves. In particular, the forecasts are primarily modal-based with, however, considerable discussion of overlapping issues. The scenarios will take a broader intermodal look at the future, and more fully consider the interplay between transportation, economic and environmental policies.

The report has been divided into two documents. An Executive Summary presents the goals and objectives, issues of regional significance, and the Executive Summary of the Forecast Report. This report incorporates the comments of the NETI Policy Committee and New England Regional Technical Advisory Committee. The text of the Forecast Report is contained in a separate document. This document will remain in draft form.

The forecasts are based on existing forecast data published elsewhere, modified and adjusted to reflect the context of the NETI study where appropriate. Since most transportation forecasts, at least until recently, were made primarily on a modal specific basis, it was most logical and cost-effective to organize this report along modal lines as was done with the Inventory Report. Independent travel demand modeling is not included in the NETI Scope of Work.

The need to organize the report in this manner should not be construed as an acceptance by the NETI Project of a future like the past, in which transportation investment decisions are made on a modal specific basis. To the contrary, NETI is committed to advancing the implementation of the ISTEA agenda for intermodalism. This will clearly be reflected in subsequent tasks, and is reflected in the text of this report (see following discussion).

High and low forecasts are provided for each mode as outer frameworks for the development of the Alternative Scenarios. Forecast years are primarily 2000 or 2010 because this corresponds to the majority of existing data. It is only relatively recently that transportation projects have begun forecasting to the year 2020. However, much of the economic data does extend out to 2020. This will not prevent the project from extrapolating forecast transportation trends to the year 2020, at least in a qualitative sense, in the analysis of the Alternative Scenarios. In some unique cases, the forecasts actually focus on the recent past. For example, future ozone levels are mandated by the attainment requirements of the Clean Air Act Amendments. Therefore, the report looks at recent trends in ozone concentrations in the context of changes in travel behavior and vehicle technology.

The findings of the forecasting task are summarized in an Executive Summary at the start of Part III.

The Role of Intermodalism; Economic and Environmental Issues

This report begins the NETI process of considering transportation issues across modal lines, and in the context of the need for transportation investment to serve the goals of economic development and environmental protection. Although the report is organized along modal or issue lines, there is substantial discussion of intermodal issues within the text of the chapters. Examples include the following:

- The highway chapter includes a high and low forecast. The high forecast is based on the official State Implementation Plans (SIPs) for Air Quality. The low forecasts were developed by this study based on the forecasts for economic growth included in the economics chapter. These forecasts can also be used to represent a future in which the growth of highway-related travel is constrained by public policy.

- The railroad and port chapters both reflect the mutual interrelationship of these modes in that the future of rail freight transportation in New England is closely related to the "land bridge" concept providing for the transfer of waterborne containerized cargo to railheads at the ports. The success of this concept is dependent both on macroeconomic trends in the shipping industry (which individual states and railroads have limited ability to impact), the quality of port facilities, and the provision of double-stack clearances on rail lines. The latter issue in turn impacts highway policy since in many instances rail clearances are constrained by highway bridges.

- The airport chapter provides high and low forecasts. The high forecasts are based on official FAA projections. The low forecasts are based on the economic forecasts provided in the economics chapter adjusted for the impact of high speed ground transportation implementation in selected markets.

- The trends in commuter behavior chapter discusses how major demographic changes in American society over the past two decades resulted in dramatic increases in single-occupant automobile travel, and how emerging technological developments today, such as telecommuting, could potentially have the opposite effect in the coming decades if properly nurtured by public policies.

- The economics chapter discusses New England's economic future, specifically in the context of how the transportation system needs to respond to new economic patterns. Examples include the shift from heavy manufacturing to smaller, more decentralized, "lighter" industrial products with "just-in-time" delivery requirements; the continued need to respond to the growing tourist industry via more effective external connections and better local access to key sites which experience high seasonal peaking demand;

and the need to meet the needs of new cluster industries such as biotechnology which have the potential to provide high wage jobs.

- Given limited resources, the study has chosen to focus on a small number of critical environmental issues which most interact with transportation planning on a regional scale. These issues include air quality, land use planning, aesthetics and quality of life, and water quality.

Part I. Goals and Objectives

I. Goals and Objectives

The overriding goal of the NETI process is to develop a Plan of Cooperation among the six New England states. This Plan is intended to develop a framework for regional cooperation and decision making in the transportation sector, but will not by itself constitute a formal transportation investment plan. It will, however, identify issues where potential regional consensus for action exists as well as critical areas where consensus does not today exist. In doing so, the plan will articulate a process for identifying and resolving those situations where consensus does not exist.

Beneath this goal, there are many objectives which need to be reflected in the Plan of Cooperation. Nine objectives are highlighted below. The order of discussion does not imply priority.

1. **Minimize Intra-Regional Competition** – Transportation investment decision making is largely made today at the state rather than regional level in New England. This can result in a short-term strategy to maximize peripheral state advantages at the expense of the long-term advancement of the region. It is perhaps most acutely reflected in decision making regarding the development of point-specific facilities like ports and airports. Clearly, some competition within the New England region is desirable and results in superior service and options for consumers. The NETI objective should be to develop a process for identifying and resolving those situations which result in a positive competitive environment and those which are wasteful of the region's limited resources.

2. **Use Transportation Investment to Promote Economic Vitality** – The official economic forecasts for New England presented in the Inventory Report show the region growing more slowly than the nation as a whole over the next 20 years, and more slowly than the experience of the past two decades. Carefully targeted regional transportation investment in both passenger and freight services are seen as a way to boost the growth rate, consistent with other transportation objectives. In particular, transportation investment can be used to support the service sector which is seen as the region's growth engine, while also preserving as much as possible of the traditional manufacturing sector which has survived the shake-out of the last decade. It should be a NETI objective to identify opportunities for targeting transportation investment in a way to maximize regional vitality consistent with overall transportation objectives.

3. **Make Environmentally Sensitive Transportation Investment Decisions** – As an increasingly service-oriented region of the country, environmental and aesthetic values which once seemed like luxuries in a more manufacturing-oriented environment, now form part of the core attraction of the region. The success of a service economy is more sensitive to environmental quality than is a heavy manufacturing economy, since many service-sector companies have wide latitude in making

locational decisions. Thus, environmental protection is important not only for its own health and aesthetic values, but is essential to economic growth. Major transportation infrastructure projects inevitably have environmental consequences both good and bad. Yet continued infrastructure investment is also essential for economic growth. The NETI project should have as an objective the development of a strategy for ensuring that transportation investment protect and enhance environmental values. It is also important that the environmental review process be conducted in a predictable and timely manner so as not to inordinately delay necessary investment decisions. Of particular importance in today's policy environment is the need to develop strategies that will assist states in complying with the Clean Air Act and demonstrating conformity between their transportation and air quality plans; land use planning and its interrelationship with the transportation system; the importance of maintaining aesthetic values and the New England quality of life; and the protection of water resources.

4. **Use Technological Advances to the Maximum Extent Possible** – For an entire era beginning with the Interstate Highway program in the mid-1950s, the most frequent solution to inadequate capacity in the transportation sector was to build or expand physical facilities – usually highways. This approach was modified in the 1970s to also include consideration of alternative investment strategies such as public transportation. Expansion of physical facilities in New England is increasingly problematic due to financial constraints, the high density of development particularly in southern New England, physical barriers particularly in northern New England, and the need to preserve remaining open space and environmental features such as wetlands. These factors have become equally significant in planning highway and non-highway facilities. The explosion of new transportation technologies, including but not limited to the range of concepts identified under the umbrella term of Intelligent Vehicle Highway Systems (IVHS), and the potential for reducing vehicular emissions and energy consumption, offers new opportunities to expand capacity by making more efficient use of existing facilities or to reduce the negative impacts of congestion. It should be an objective of the NETI study to develop strategies for facilitating the implementation of technological solutions to capacity limitations.

5. **Use Changes in Social and Work Patterns to Minimize Travel Demand Growth** – The alternative approach to addressing capacity limitations in the transportation system is to reduce or change demand characteristics. Macro-level changes in American society can impact demand in both directions. For example, positive changes such as the dramatic increases in female participation in the work force along with other developments such as an increase in the number of single-parent households in the last generation resulted in travel demand increases which outstripped the increase in population and employment growth. Different trends in the next generation could have the opposite effect; these changes are focused around the changing nature of work itself including telecommunications, flextime, part-time work and self-employment. It should be an objective of the NETI study to develop strategies for encouraging these trends and using them to reduce the need for increasing the capacity of transportation systems.

6. **Coordinate Land Use and Transportation Planning** – There has long been tension in U.S. policy making between the many public policy factors and personal preferences which encourage the suburban sprawl style of development, and the strains which this trend places on the transportation infrastructure. To some extent, New England is better off in this regard than other regions of the country due to its compact physical geography and the continued existence and prosperity of many traditional city and town centers. Nevertheless, New England has experienced VMT growth over the past generation due to the increasing separation of residential, employment, recreational, and shopping functions. Many such trips increasingly cross state boundaries. While much of New England, in particular the urban areas, has relatively developed and stable settlement patterns, better coordination of land use and transportation planning in some areas could produce a more efficient, less congested, and less polluting transportation system. It should be an objective of the NETI project to develop a strategy for encouraging changes in land use planning, regulation, and design, so that development patterns do not continue to foster automobile dependence and congestion.

7. **Promote Intermodalism** – Traditionally, transportation planning in the United States was done on a modal specific basis. This tendency is reinforced by the organizational structure of transportation decision making at the state and federal levels. Increasingly, trips require the use of more than one mode and it is at the interface between modes where effectiveness is lost. Intermodal connections in freight shipments, particularly between ports and rail facilities, is increasingly critical in maintaining a competitive economic environment. Intermodalism is an explicit goal of the federal ISTEA legislation, and the development of intermodal strategies and institutional arrangements should be an objective of the NETI project.

8. **Promote Innovative and Fiscally Sound Financing Policies** – The major transportation investments of the last generation, and frequently throughout American history, have been driven by federal policy and money. Clearly, we are in a different environment today in which federal resources are limited and decentralized decision making is valued. It should be the objective of the NETI project to promote financing strategies which incorporate private sector participation, use innovative approaches, and accurately reflect the true costs and benefits of the investment options available.

9. **Promote Intra- and Inter-Regional Connectivity** – The transportation network should provide efficient and effective connections for New England freight and passenger services to the rest of the nation and international destinations, and within New England including between southern and northern New England and between rural and urban areas.

Part II. Issues of Regional Significance

II. Issues of Regional Significance

The following issues are proposed for consideration or mention in the NETI study as being of regional significance. In a number of cases, issues are mentioned as potentially being of regional significance, but the resources do not exist to thoroughly examine them as part of this study. These include pipelines, certain bicycle facilities, and local/commuter-oriented water passenger services. The identification of an issue in this section does not mean that the NETI Project endorses any specific action, but only that the issue should be evaluated for the inclusion of a possible course of action in the Plan of Cooperation.

■ 1.0 Institutional and Organizational

The focus of this subject is on issues which override the concerns of individual modes (with the exception of environmental issues which are treated separately), the decision-making process itself and the extent to which it fosters regional cooperation, and issues which transcend the New England region.

1. The planned development of a National Transportation System (NTS) as a logical intermodal extension of the proposed National Highway System (NHS) offers a unique opportunity for NETI to contribute to the development of an integrated regional intermodal transportation system.

2. Public/private partnerships present an opportunity for creative approaches to addressing transportation and economic development needs in an era of constrained government finances. Care must be taken to ensure that appropriate public purposes are achieved where mixed financing occurs.

3. The ways in which government finances transportation projects, and the implicit subsidies to different modes inherent in these approaches, needs reexamination in light of constrained government finances, the priority given to intermodalism, and the impact of changing travel patterns and technology on the traditional user fee-based financing mechanisms such as the gasoline tax. The possibility of broadening the user base to charge equitably for all movement of people and goods should be examined.

4. The I-95 Coalition consisting of the East Coast corridor states from Virginia north provides one opportunity among many for an interregional approach to the implementation of Intelligent Vehicle Highway Systems (IVHS).

5. All of the states are struggling with developing and implementing methodologies for meeting the new federal ISTEA planning regulations. NETI can help to foster a common approach and the promotion of more advanced methodologies.

6. There is a need for better freight data to facilitate regional planning and coordination.

2.0 Highways

The focus of this effort is the National Highway System (NHS) as currently proposed by U.S. DOT, plus some minor adjustments requested by the states.

1. Maintain in good working order the existing roadway infrastructure.

2. Develop strategies for meeting capacity limitations through means additional to the expansion of Single Occupant Vehicle (SOV) capacity; strategies include development of High Occupant Vehicle (HOV) facilities; operational improvements via new technologies; and Transportation Demand Management (TDM). The purpose should be to meet demand requirements while maintaining or reducing total vehicle trips and emissions during critical periods; and to determine which demand management strategies would be both effective and feasible.

3. Identify those situations requiring capacity expansion programs.

4. The majority of freight traffic in New England is carried by motor carriers. The industry faces a range of pressures including competition within and outside the industry; increasing emphasis on "just-in-time" delivery; and increasing highway congestion. New England should examine the development of a consistent approach to commercial vehicle regulation which will minimize regulatory barriers and inefficiencies between states, and incorporate commercial vehicle operational issues into IVHS planning. Considerations include the critical role played by the motor carrier industry in the New England economic environment.

5. Define intercity bus services which may be essential to rural mobility and develop strategies for their maintenance; evaluate the potential for enhanced intercity bus commuter services to urban areas in conjunction with the development of HOV facilities; and provide better scheduling coordination with urban transit services and other modes as necessary.

6. As endorsed by AASHTO, highway design standards should be reviewed with the goal of providing more flexible standards which can conform to unique regional characteristics and physical constraints, while still providing for safe operation.

3.0 Railroads

The focus is on the seven first-tier carriers – Amtrak, Conrail, Guilford Transportation Industries, Canadian Pacific, Central Vermont, Providence and Worcester, and Bangor and Aroostook. Other issues and facilities will be considered on a consolidated state-by-state basis.

1. Maintain and enhance Northeast Corridor main line passenger and freight transportation service.

2. The role of railroads in providing a land bridge between seaport connections is a major issue affecting the future role of both New England port and rail freight facilities. This may require providing double-stack clearances over railroad tracks on some routes, which will impact highway programs as well. Market forces affecting the shipping industry will have a major impact on the growth of demand for these facilities; examples include the preference of the automobile industry to concentrate shipments at a small number of major centers, and the increasing growth of the Southwest Asian market with a shipping orientation through the Suez Canal to East Coast ports.

3. In addition to the intermodal market for railroad freight service, another potential growth market which has been identified is the shipment of waste material. With the closure of local landfills, there are growing opportunities for longer distance (i.e., railroad competitive) movements to reclamation or disposal sites. In New England, the waste paper industry may be a potential major component of this market.

4. There is considerable interest in the expansion of commuter rail services, many of which serve more than one state. Important issues include financing; the sharing of facilities also used by intercity passenger and freight services; and determination of viability in terms of demographic base and physical construction constraints. ISTEA does permit transit funding to be handled by Metropolitan Planning Organizations (MPOs) which straddle state lines.

5. There are many projects and studies underway for the implementation of interstate high speed ground transportation facilities in the Boston-New York-Washington-Portland corridor and Boston-Albany corridor. The interrelationship of these services with commuter air service and interstate auto travel is critical in determining an appropriate investment strategy for the region.

6. Some rail facilities in New England still face the threat of abandonment. These facilities often provide the only rail service to existing manufacturing operations. The development of an abandonment strategy and the determination of whether it is possible to identify a core New England rail network worth preserving is an issue for NETI consideration.

7. The merits of providing an interconnected passenger rail system within New England and between New England and the larger Amtrak system is of regional significance.

The North Station to South Station rail connector proposed by the Commonwealth of Massachusetts for the Central Artery corridor in Boston is an example of a project which could help to achieve this goal, as is the rehabilitation of the Concord-White River Junction line for access between Boston and Montreal.

8. A new cross-Hudson rail freight connection may be of regional significance in the maintenance of a viable New England rail freight service integrated with national service.

9. Railroad jurisdiction and interlining problems should be examined to enhance coordination among the 31 owners and operators in New England.

10. The funding availability for rail freight improvements and the desirability of maintaining the ISTEA prohibition on the use of FHWA funds for this purpose should be examined.

■ 4.0 Airports

The focus of the study will be on the top seven airports in annual enplanements which account for 95 percent of all New England enplanements. These are the airports serving Boston, Hartford, Providence, Portland, Bangor, Burlington, and Manchester. In addition, Worcester and Pease are aspiring to play regional roles and should therefore be included. Other public and general aviation facilities will be considered on a consolidated state by state basis.

1. Ground access to airports is a critical intermodal issue which may be a major factor in the potential regional role which an airport can play. This issue is most critical today at Logan Airport, but all regional airports should strive to efficiently connect to the local ground transportation system. A related issue is the desirability of maintaining the prohibition on the use of passenger facility charges for ground transportation services indirectly related to airport operations.

2. The growth of airport demand is inversely related to the development of high speed ground transportation services, which may in turn impact the capacity requirements of some New England airports in the future.

3. The development of a regional air transportation system, which may or may not involve a single second major regional airport or a system of smaller regional airports, should be examined. Related to this issue is commuter access to Logan Airport from smaller New England airports for access to national and international long-haul service, and how this access can be most efficiently provided given airside capacity limitations at Logan.

4. Bradley International Airport in Windsor Locks, Connecticut is an under-utilized facility which is the second largest airport in the region with twice as many annual enplanements as the next busiest facilities (Bangor and Providence) and four times as many as any other facility. Worcester Municipal Airport, also an underutilized facility unable to fully capitalize on its market potential, has experienced on average a 15 percent annual decrease of enplanements each year since 1989. Maximizing the potential role at these and other facilities in the regional air transportation system is an important issue.

5. The route and fare structures available to New England residents and businesses affect issues of economic growth and consumer choice. The airport surveys conducted in the inventory phase indicated relative satisfaction with the route system but some concern with fare structure. The latter could be improved through the development of low cost carriers serving short and intermediate distance markets. While the growth of such carriers is primarily market-driven, a New England regional air transportation strategy could take maximum advantage of such developments.

6. The impact of industry-wide market trends such as larger aircraft serving major hubs and smaller aircraft serving other destinations, the restructuring of general aviation, reduction in industry operating costs, the growth of commuter and international traffic, and FAA technology improvements in Air Traffic Control (ATC) will impact New England decisions regarding airport capacity.

7. Funding of capital improvement projects and operating subsidies are key concerns for airports, in particular the uncertain future of the Airport Improvement Program (AIP) and the Essential Air Service (EAS) Program.

8. It is likely that additional military air transportation facilities will be abandoned in coming years. Developing a regional strategy for their re-use is a significant issue.

5.0 Ports

The focus is on 12 ports of which nine are among the top U.S. 150 in cargo tonnage. These nine ports are Boston, Fall River, Portland, Searsport, Portsmouth, Providence, New Haven, New London, and Bridgeport. In addition, the ports of Davisville (RI) and Eastport (ME) have been identified by their states as being regionally significant. Finally, New Bedford services two important niche markets for the export of fresh seafood and the importation of fresh fruit.

1. As identified above, intermodal rail connections may be critical to the future of New England ports.

2. The ability to expand port capacity is impacted by environmental controversies over harbor dredging and associated disposal of dredged spoils.

3. New international trade agreements, and market trends in the shipping industry, will have major impacts on the development of port strategies.

4. The vast majority of cargo (82 percent) which passes through New England ports are imported petroleum products. While this market may slowly decline due to greater reliance on cleaner burning fuels and the introduction of more energy efficient vehicles, individual markets remain strong. The future of the ports is really dependent on what happens with the other 18 percent of cargo, and this will be the focus of NETI. Of this 18 percent, the key elements are those cargos which are competitive in nature and can readily shift among ports as compared to those which are largely dependent on a local hinterland market.

5. In addition to gross tonnage, passenger volume and the dollar value of cargo should also be considered in evaluating the role of New England ports.

6. Water passenger services should be evaluated for their role in enhancing local tourist markets and providing essential transportation connections.

7. Pipelines should be evaluated as a potential alternative to traditional ground transportation services as a means of distributing liquid bulk cargo from ports to end users.

8. The development of a regional port strategy which focuses on maximizing New England port activity vis-a-vis other regions and modes rather than on intra-regional competition should be evaluated.

■ 6.0 Trends in Commuter Behavior

Changing demographic patterns (such as the aging of the population), in combination with specific work-related trends which can be encouraged as a matter of public policy such as telecommuting and other flexible work arrangements, has the potential to significantly impact regional travel growth in positive ways so as to reduce congestion and hence the need for future capacity expansion projects. Marketing alternative transportation and work strategies may be necessary. In addition, since the majority of trips are non-work related, changes in these travel patterns also need to be considered. A related issue is the potential negative impact of telecommuting in increasing the number of non-work trips and in encouraging dispersion of work centers making them more difficult to serve by public transit or ridesharing.

7.0 Economics

The NETI Project should evaluate the potential for using transportation investment to make New England's manufacturing core industries more productive and competitive and promote the development of the service sector. Specific issues include the following:

1. The "just-in-time" delivery requirements of the manufacturers of high tech and other smaller, lighter goods, which are increasingly replacing the traditional heavy industry manufacturing base, demand a more efficient and time-sensitive transportation system. NETI should evaluate the implications of this trend.

2. Better external connections may be required to take advantage of export opportunities generated by the changing international trade climate, the continued increase in tourist traffic into the region, and increases in frequent business travel into and out of the region.

3. The increase in tourist traffic also drives the need for improvements to local transportation facilities which provide direct access to tourist sites which may experience severe seasonal peaking requirements.

4. The development of new internal "cluster" industries, such as biotechnology, may require improved intra-regional transportation systems.

5. The continued growth in population, employment, and economic activity, though projected to be slower than during the past two decades in New England and slower than for the nation as a whole over the next two decades, will nevertheless substantially increase demand for transportation services. The greatest numerical increases will occur in southern New England where transportation systems are today the most congested. The greatest proportional increases will occur in northern New England where facilities are in general less congested but also less robust. Transportation strategies need to address these trends.

8.0 Air Quality and Energy

1. The critical pollutant of regional significance is ozone since its concentration is impacted by transport over wide areas, and it represents the most serious nonattainment problem in New England. NETI should evaluate the advantages of developing of a regional strategy for meeting CAAA ozone standards, for helping to demonstrate conformity of transportation and air quality plans, and for developing a regional analytical methodology to document compliance. Since ozone nonattainment is primarily a summer phenomenon, strategies should target both permanent, long-term travel characteristics and unique seasonal travel characteristics.

2. It may be desirable to develop a regional clean and alternative vehicle fuel program which meets the requirements of both CAAA and EPA, is acceptable to industry, and for which an infrastructure of critical mass can be created.

3. The appropriate role of transportation, stationary and other sources of pollution in solving air quality problems needs to be addressed in evaluating the interdependence of ISTEA and CAAA.

4. In the past decade, gains in vehicle energy efficiency have been offset by increases in vehicle miles traveled, with transportation-related uses consuming more oil than is produced in the United States. Development of a regional clean and alternative vehicle fuel program, as mentioned above, might not only serve to meet transportation and air quality plans, but would reduce the region's dependence on unreliable sources of foreign oil.

■ 9.0 Other Environmental Issues

The following issues were discussed in the Inventory Report: wetlands/waterways, parklands and historic resources, hazardous material, noise, broad-based environmental regulation, land use planning, and aesthetics and quality of life issues. While many of these areas are relatively settled matters of law on which the NETI Project could have minimal impact, the following will be focuses of NETI:

1. Many wetland and waterways protection is potentially an issue of regional significance given its broad impact on transportation investment decision making and the likelihood of ever more stringent public policies. Related issues include stormwater run-off into sensitive waterways and the pending reauthorization of the Clean Water Act.

2. Land use planning may provide an opportunity for shaping future transportation investment decisions in ways that can minimize growth in VMT and unnecessary SOV trips and promote more efficient freight movement, and thus assist in achieving compliance with CAAA mandates. Transportation decisions could potentially help to develop new land use patterns, while recognizing that land use decisions are made for a variety of reasons of which transportation is only one. Transportation planning has the potential to promote regional considerations, which in turn could promote a different pattern of land use development.

3. Aesthetics and quality of life issues are increasingly critical in transportation decision making as New England continues its transformation from a manufacturing to a service-based economy. This includes those characteristics which help to define the New England environment for residents and visitors, including personal mobility; rural, suburban and urban lifestyles; traditional town centers; rural vistas; historic places; and recreational facilities.

Part III. Forecasts/Trends Assessment

Executive Summary

Executive Summary

■ Highways

Existing volume-to-capacity (V/C) ratios were projected to the year 2000. The high volume estimates were based on the projected increase in Vehicle Miles Traveled (VMT) in 1996 submitted by the states to the U.S. Environmental Protection Agency (EPA) in their State Implementation Plans (SIP) for the attainment of air quality standards. These forecasts are for VMT growth rates of 1.2 percent to 2.5 percent annually depending on the state. The low volume estimates were based on the projected 0.4 percent annual increase in New England population as presented in Chapter 7.0 of this report. The forecasts assume continued congestion on routes already congested.

Volume to capacity ratios were developed based on existing conditions data supplied by the states, then projected into the future using the assumptions described. The data are based on average annual daily volume and peak hour factors using industry standard methodologies. A 90 percent peak hour V/C ratio on an annualized basis was used to define a congested facility. As with all of the NETI analyses, the goal is to present a regional picture at a generalized level. It should be understood that the facilities identified as "congested" are not always congested, and that other facilities are congested some of the time. For example, roadways in popular recreational areas may be highly congested for several months of the year, and experience very low volumes the rest of the time. On an annualized basis, such facilities are not congested. Several such facilities are identified in the text. This methodology should not lead one to assume that other facilities may not warrant appropriate public policy attention.

It should also be noted that this methodology may lead to different conclusions then those contained in individual state studies. This approach was developed to provide a common analytical approach across the six New England states.

Existing V/C ratios for Connecticut and Maine are presented in this report since they did not appear in the Inventory Report. Existing conditions for all other states are described in the Inventory Report. In Connecticut, most sections of I-95, 91, and 84 are at or near capacity during peak periods, as well as CT 15 (Merritt Parkway), U.S. 7 between I-84 and CT 15, and small sections of several other routes. In Maine, only ME 196 between U.S. 1 and I-95 in the Brunswick area is at capacity on a year-round basis (other routes in tourist areas experience seasonal congestion).

In Connecticut, V/C ratios will approach capacity on three short segments of state Routes 8, 9, and 2 under the low volume forecast, and on state Route 202 and U.S. 5 under the high volume forecast. In Rhode Island, V/C ratios will approach capacity on short segments of state Routes 1A, 136 and the Airport Connector under both scenarios.

In New Hampshire, no additional routes will experience congestion under the low growth forecast while short segments of state Route 51 and U.S. Route 3 will experience congestion under the high growth forecast. In Maine, I-295 between U.S. 302 in Portland and the northern junction with I-95 in Falmouth will experience congestion under the low growth forecast. Under the high growth forecast, congestion will also be experienced on I-295 between U.S. 302 in Portland and the southern junction with I-95 in Scarborough; and on the Maine Turnpike (I-95) between I-295 in Scarborough and I-195 in Saco. No routes in Vermont are currently congested and none are projected to be under either scenario.

The greater Boston region of Massachusetts experiences the most congestion today and will experience substantially greater congestion under the high growth scenario. In the low growth forecast, only short sections of I-495 and MA 114 will experience congestion. In the high growth scenario, the following major routes will experience peak hour congestion: the northernmost sections of U.S. 3, all sections of I-93 north of Boston not presently congested, MA 24 in the Randolph and Brockton areas, MA 3 in the Norwell area, and the Masspike (I-90) in the Weston, Wayland and Newton areas. Numerous other smaller U.S. and state routes will also be congested. In the Springfield area, short sections of I-291 and I-91 will be congested.

Several significant highway projects are planned in each state to address some of these areas of congestion. In Connecticut, projects include operational improvements to I-95 in Darien and Stamford and a major incident management program in the I-95 corridor; extension of the I-84 HOV lane to East Hartford; reconstruction, widening and upgrading of U.S. 7 in the Norwalk to Danbury area; a new expressway between Norwalk and Wilton; and Route 6 capacity improvements from Bolton to Willimantic.

Rhode Island projects include the relocation of I-195 in Providence for safety and capacity improvements; an upgrade of U.S. 6 from the Connecticut border; and the construction of the Quonset Point Access Road in East Greenwich.

In Massachusetts, the main focus is of course the Central Artery/Tunnel Project which will widen I-93 through Boston and double cross-harbor capacity to Logan Airport via an extension of I-90 in tunnel. Other projects include the widening of U.S. 3 from I-95/MA 128 to the New Hampshire border; and possible HOV lanes on the Southeast Expressway, I-93 north of Boston beyond the present HOV terminus, and on I-95/MA 128 between Wellesley and Randolph.

Improvements in New Hampshire include widening the central portion of the F.E. Everett Turnpike (U.S. 3) and construction of a new circumferential highway to the east through Hudson (presently subject to a dispute between NH DOT and U.S. EPA); and widening NH 101/51 east of NH 125 for safety and capacity purposes. Vermont projects include the reconstruction and/or relocation of U.S. 2 and 7, and VT 9; and the construction of the Chittenden County Circumferential Highway (VT 289) east of Burlington.

In Maine, there is a major reconsideration of highway policy in light of the referendum defeating the proposed Maine Turnpike widening south of Portland and the enactment of the Sensible Transportation Policy Act. Priority now is on undertaking approaches other than those which add physical highway capacity through construction and/or reconstruction. An example is a major TDM program in the midcoast U.S. 1 area which experiences high levels of seasonal congestion.

Motor Carriers

In the Inventory Report, a brief discussion of motor carriers was included. Subsequent comments received during the Inventory review period indicated that, given the vital role of motor carriers to the New England economy and their dependence on transportation systems, trucking should be addressed in more detail within the NETI project. Detailed inventory data and regional trucking issues are discussed within the main Forecasting Report.

The motor carrier industry in New England includes many type of operations, equipment and fleet sizes. The industry is highly fragmented, reflecting the complexity and diversity of the many businesses, industries and government agencies, and the consumers they serve. The majority of intercity freight moves by truck, either point-to-point or as part of goods movements by other modes of transportation. Truck movements are important to the construction, manufacturing, transportation, and wholesale trade sectors. The industry includes for-hire carriers as well as private carriers, firms which own and operate their own vehicles. The largest manufacturers generally rely on for-hire common and contract carriers to move goods to the market place, while shipping most of their interplant freight in their own private fleets.

A significant imbalance exists between inbound and outbound freight movements in the region, due to its locations at one end of the national transportation infrastructure. As such, a far greater amount of goods is shipped into the region than leaves the region. Freight movements include inbound and outbound raw materials as well as manufactured products, but the principal type of freight moved in New England is manufactured freight. As the economies of the six New England states grew in the 1980s, the total amount of manufactured freight transported in New England grew 37 percent between 1982 and 1991.

Businesses and trucking companies operating in multiple states are subject to different regulation and taxation within each state. Because each state has its own unique needs, the motor carrier regulatory system has become increasingly complex. This lack of regulatory uniformity within the region is perceived by some in the industry to be greater than it is in other regions.

Another issue with New England carriers is their participation in two fuel tax agreements – the International Fuel Tax Agreement (IFTA) and the Regional Fuel Tax Agreement (RFTA). The RFTA includes only its original three members (Maine, New Hampshire and Vermont) while membership in IFTA has grown substantially. Consequently, carriers doing business in states other than the RFTA states must also join IFTA, increasing their administrative reporting requirements.

In the New England region, it is perceived that there is no coherent strategy for promoting trucking as a business. The relatively high fees and taxes imposed on motor carriers in New England is perceived as creating an "anti-business" climate. It should also be noted that trucks, due to their scale, are perceived by many as major contributors to the negative externalities of highway travel, i.e., air and noise pollution, congestion, safety, and roadway degradation. This creates an inevitable tension between the need to maintain an effective and efficient motor carrier industry for its own sake and its role in the New England economy, and the environmental impacts (both real and perceived) of the industry.

A coordinated regional response to the issues of the trucking industry would be to ensure that motor carriers are able to continue providing the freight movement services that are critical to the growth and competitiveness of the regional economy, while preserving environmental quality:

- **Competitive Pressures** – Since deregulation of the motor carrier industry in 1980, it has evolved from a highly regulated industry to an extremely competitive one. The region as a whole needs to consider the viability of the motor carrier industry when addressing the issues of taxation, user fees, and regulations.

- **Increasing Emphasis on Customer Service** – Many changes in the marketplace, such as the introduction of just-in-time manufacturing and distribution systems, and an increased emphasis on quality and customer service, directly affect motor carrier operations, particularly for long-haul truckload carriers.

- **Increasing Congestion** – Congestion has a significant impact on trucking because one third of all truck miles of travel occur in large urban areas, with two thirds on freeways. The trucking industry is also concerned about restrictions to truck access, movements, and fuel use that may be developed in response to air quality and other policies. The impact of trucking on urban congestion is also a concern to many. Any efforts to develop urban IVHS systems for traffic management and traveler information in the region should consider the needs of the trucking industry. The congestion management systems required by the ISTEA also provide a mechanism for incorporating the needs of the trucking industry into making coordinated decisions about congestion alleviation.

- **Resistance to New Ways of Doing Business** – Some observers believe that the combination of institutional resistance – conservatism on the parts of both public agencies and motor carriers – plus infrastructure considerations – old roads, narrow turns, granite curbstones – will substantially impede the region's ability to implement procedural or technological innovations that may improve the efficiency with which motor carrier regulations and enforcement are administered. Under a fully realized IVHS/CVO (commercial vehicle operations) program, carriers could obtain all credentials and permits in one electronic transaction with a single state and not be forced to stop repeatedly in other states for any regulatory business. The New England states should work together in the development of IVHS/CVO programs that will consider both the needs of motor carriers and other public policy interests.

Railroads

Extensive forecasts of passenger volumes for the year 2010 are provided in a variety of Environmental Impact Statements (EISs) and state planning documents. Projections for Amtrak Shore Line service are provided in the Northeast Corridor Improvement Project (NECIP) EIS. A 21 percent increase in total intercity travel between Boston, New York City, and intermediate markets is forecast for the year 2010, or about one percent annually. While the NECIP electrification project will not significantly increase the total market, it will impact mode split particularly between air and rail. Amtrak accounts for 5.9 percent of the existing market. Under 2010 No Build conditions, this will increase to 8.7 percent due to increasing highway and airport congestion; it will increase to 16.8 percent assuming completion of the electrification project.

Much less detailed projections are available for the other existing Amtrak services in New England, the Inland Route from Boston to Albany and points west and Montrealer service in Vermont. For analysis purposes, a low annual estimate of 0.5 percent and a high estimate of 1.0 percent consistent with economic forecasts of New England growth rates will be assumed for both services. While Vermont has conducted some analysis of the market potential of intrastate feeder services to the Montrealer, it is not clear that these services would increase total line ridership as opposed to providing alternative access modes for existing riders.

Several states have developed forecasts for future ridership on intrastate service. ConnDOT projects a 24 percent increase in ridership on Metro North commuter rail services from New Haven west by the year 2010, slightly more than a one percent annual increase. An increase of 124 percent to 210 percent is forecast for Shore Line East service between New Haven and Old Saybrook. The latter is a much less mature service than the rest of the Metro North system, having begun operation only in the late 1980s, and expanded service to New London is assumed.

The Massachusetts Bay Transportation Authority (MBTA) projects a doubling by the year 2010 of Boston area commuter rail ridership from the current 31,500 daily round trips to between 60,000 and 70,000. These forecasts assume a continuation of the high growth rates on south side services experienced in recent years, as well as implementation of a number of new services including the three branches of the Old Colony line, Worcester and New Bedford service. These forecasts do not assume the North Station-South Station rail connector, which has been separately analyzed.

The forecasts for both Connecticut and Massachusetts assume continuation of aggressive park and ride development programs, since the supply of parking spaces is often the major constraint on the growth of commuter rail ridership in both states.

No ridership forecasts were identified from Rhode Island for MBTA Providence service or from New Hampshire for the extension of MBTA service into the southern part of the state. For the potential Providence to Westerly service, preliminary ridership forecasts are between 3,000 to 5,000 passengers per day. Vermont forecasts a 10 percent market capture rate for Burlington area commuter rail services by the year 2003. While this rate is fairly typical for such services, the relatively low population densities result in daily ridership estimates of between 130 and 250 one-way trips per line. Maine forecasts daily ridership on Boston to Portland Amtrak service by 2010 of between 2,700 and 3,400 daily round trips. The high forecast is dependent on the development of local integrated bus services.

Detailed forecasts of this nature do not exist for freight service. Today, approximately 27.4 million tons of freight are shipped on New England railroads, of which 72 percent is destined for New England locations. The Massachusetts to New York (Albany) corridor is the dominant freight route. Other notable movements include unit coal trains to Bow, NH; fuel oil from Searsport, ME to inland paper mills; crushed stone from Connecticut quarries; inbound petroleum products from New York state to Vermont; and automobile imports to Boston and Quonset Point/Davisville.

Conrail estimates system-wide annual growth at 5.5 percent through the year 1996, with the highest growth rates of 8.7 percent for coal, 6.1 percent for intermodal (trailers or containers on flatcars), and 5.2 percent for solid waste. For NETI purposes, we will assume a low annual growth rate of one percent and a high rate of two percent through the year 2000, with higher estimates of five percent to seven percent annually for intermodal and five percent to 10 percent for waste products consistent with their potential for growth in the New England market. All of these forecasts are based on trends reported by the Association of American Railroads.

■ Airports

Air travel has begun to rebound from the recent recessionary period, with a nation-wide growth rate of eight percent in passenger enplanements and nine percent in cargo tonnage reported for 1993. The Federal Aviation Administration (FAA) forecasts the following annual growth rates for passenger enplanements by the year 2004:

Domestic	3.5%
International	6.6%
Commuter	8.4%
General Aviation (hours flown)	1.4%

The high rate of growth forecast for international and commuter services has particular significance for New England where Logan remains the major international hub with commuter service connections to smaller New England airports. The viability of a New England air transportation system is dependent on maintaining adequate access through this existing pattern or the development of air or high speed ground-based alternatives.

The high estimates for the individual New England airports which are the focus of the NETI study are based on FAA Terminal Area Forecasts (TAF) for year 2000. The low end assumes a 0.6 percent annual growth rate consistent with New England economic forecasts.

Lower growth rates are assumed for the following airports which could experience trip diversion to planned rail service improvements: Logan (0.2 percent), Portland (0.4 percent), and T.F. Green (Providence) (0.3 percent).

Following are the annual high end enplanement growth rates forecast by the FAA for individual airports:

Bradley	4.9%
Logan	4.0%
Worcester	6.8%
Bangor	11.8%
Portland	4.7%
Manchester	5.0%
Pease	33.0%
T.F. Green	2.7%
Burlington	6.2%

The forecasts for all but Bangor and Burlington appear reasonable, while those two may be optimistic. The forecasts for Manchester and Worcester may actually be conservative. The forecast for Pease is the most speculative since it has only one year of operational experience.

Bradley is actually underserved today in relation to its market catchment area. The forecast for Logan is slightly lower than the 1981-1988 growth rate, but slightly higher than the 15-year historic trend. The number of enplanements forecast for Worcester in the year 2000 is actually less than actual enplanements in 1988/1989. Designation of Worcester as a major regional airport, accompanied by significant capital improvements to relieve service constraints, could push the forecasts higher. The forecast for Portland is consistent with historic trends. The forecast for Manchester could be conservative given its high level of sustained growth, excellent ground access, market catchment area, aggressive marketing, and infrastructure improvement program. The forecast for T.F. Green is consistent with historic trends.

Sixty percent of enplanements at Bangor are international charter flights. Bangor has experienced an annual 12 percent decline in enplanements since 1990. A continued aggressive marketing program will be necessary to achieve these forecasts. Burlington, alone among the major New England airports, has experienced zero growth since 1984. Achieving forecast levels will require strong economic growth and development of the Canadian market.

Pease has no historic trend line or official FAA forecast. The first year projected enplanement rate of 40,000 will exceed early projections, although it is somewhat dependent on aggressive fare discounts. Using the same approach as the Part 150 Noise Compatibility Study, an enplanement level of 300,000 by the year 2000 appears reasonable and consistent with the actual growth at Manchester in the 1980s.

Ports

The growth in cargo tonnage at individual ports will be influenced by external factors (market trends, trade agreements, political developments, dredging policy, etc.); internal factors (wage rates, intermodal connections, cargo handling facilities, dredging activity, etc.); and immutable factors (weather, geography, etc.).

Non-competitive and competitive cargoes are treated separately. Non-competitive cargoes are primarily bulk material such as petroleum products, gravel, coal, iron and steel which are imported through New England ports to service hinterland markets. Of greatest significance is petroleum products which today constitute 82 percent of all cargo shipped through New England ports. A total decline of between five percent and 10 percent is forecast for these products through the year 2010 due to the gradual substitution of cleaner burning fuels such as natural gas, and the development of more fuel efficient and less polluting transportation vehicles as required to meet ISTEA and CAAA mandates. Individual markets, however, such as the shipment of petroleum products to Canada via Portland remain strong. Other bulk cargo such as scrap iron/steel should grow in proportion to regional economic trends, in the range of 0.5 percent to 1.5 percent annually.

Competitive cargoes are those which have the potential of shifting from port to port both within the New England region or into or out of the region entirely. They include food and agricultural products, motor vehicles, wood/lumber products, and manufactured products. With the exception of vehicles, most of these products are shipped in containers. Elements of this sector continued to grow even during the general recessionary period of 1989-1991, and thus positive future growth can be expected. Forestry and paper products in particular have strong growth potential due to market shift from the increasingly protected old growth forests of the Pacific Northwest to the privately held forests of northern New England, especially Maine. This raises environmental issues for New England. The shipment of automobiles, on the other hand, is a highly competitive market with the auto companies favoring the concentration of shipments at a few, large ports primarily in the Mid-Atlantic region.

Containerized cargo is shipped through five New England ports: Boston, Portland, Portsmouth, Providence, and Davisville. Portland and Boston presently handle the majority of this business. These shipments are intended primarily for midwestern industries and thus a key element of the ports' success will be the provision of integrated rail transport using state-of-the-art double stack technology. While these ports have certain natural competitive advantages in that they are closer to European markets than Mid-Atlantic ports and are generally ice free in comparison to the St. Lawrence Seaway, Montreal and New York/New Jersey presently capture a large percentage of New England cargo. This is a highly competitive field in which a variety of factors determine shipping decisions.

It appears that the focal point of containerized transport in Rhode Island is shifting from Providence to Davisville due to the latter's potentially superior intermodal connections. Both Boston and Davisville are promoting the development of double-stack service via Fort

Devens and Worcester. At this time, it is not possible to determine if there is sufficient market demand to fully sustain both ports. Amtrak's NECIP does not preclude the development of third freight track development in Rhode Island. The status of the auto markets in Boston and Davisville is also dependent on similar clearance improvements for tri-level auto carriers.

A substantial amount of Portsmouth traffic is shifting to Portland due to the low non-union labor costs at Merrill's Pier and superior access to Canadian and Maine markets.

The remaining New England ports serve primarily smaller niche markets and will continue to do so. Eastport (ME) primarily services the hinterland forest products market, and forecasts an increase in annual tonnage from 210,000 today to 400,000 in 2000. A new facility is being designed to handle this growth. Growth at Searsport is largely dependent on completion of an international cargo facility which has been delayed due to environmental controversies; a supplementary EIS is now scheduled for completion in 1994. New Bedford and Bridgeport will likely maintain and grow their fresh fruit importation niches, with Bridgeport also attempting to develop a southern New England center for pulp and paper products. Fall River is primarily dependent on the importation of petroleum products and is unlikely to experience growth. The New London facility is presently inoperable; the future of this port is closely tied to the pending sale of the Central Vermont Railroad.

Providence and Worcester Railroad is continuing construction of its South Quay port in East Providence, Rhode Island. A consultant is conducting a study to evaluate specific market segments which are suited to the facility.

Trends in Commuter Behavior

The last two decades have seen dramatic changes in nation-wide travel behavior closely related to demographic trends. Based on U.S. Census data and the 1990 National Personal Transportation Survey (NTPS), women as a percentage of the work force have increased from 36 percent to 46 percent; the percentage of eligible drivers with licenses has increased from 68 percent to 88 percent; the average number of vehicles per household has increased from 1.16 to 1.77 while the number of people per household has declined from 3.15 to 2.56; the annual number of household vehicle trips has increased from 1,348 to 1,702 while the average trip length has increased from 6.1 to 7.7 miles. All of these trends have resulted in greater increases in vehicle trips and miles traveled than the proportional level of population and economic growth.

Changes in mode splits between 1980 and 1990 reflect these patterns. The percent of work trips in single occupant autos has increased from 66 percent to 76 percent while carpools have declined from 20 percent to 12 percent. (It should be noted that the 20 percent may have been temporarily inflated as a result of the 1979 energy crisis). Transit trips have declined from six percent to five percent of the total, and are about equivalent to walk trips which also declined from six percent to four percent. Average vehicle occupancy declined from a range of 1.14/1.23 to 1.06/1.09. These national statistics are mirrored in New England.

These trends demonstrate the importance of macro-level societal demographic developments in influencing national and regional travel patterns. While ridesharing and transit projects can have significant local impacts, their impacts on larger trends is small. It should also be noted that the 1980s represented a period of generally decreasing levels of investment in these strategies.

Given the demonstrated importance of demographic trends, the NETI project needs to take into account the possible trends of the next two decades in developing alternative transportation strategies. One such trend of great importance is the telecommunications revolution and its potential for changing journey to work patterns. It is estimated that 7.1 million workers presently work at home via telecommunications equipment at least part of the time. This represents a 15 percent increase since 1992.

U.S. DOT predicts that by the year 2000, five percent to 10 percent of the work force will telecommute an average of three to four days/week. The Massachusetts Strategic Assessment Report estimated that seven percent of Logan Airport enplanements could be eliminated by teleconferencing by the year 2010. A study by Arthur D. Little of the potential for telecommuting estimates that 10 percent to 20 percent of work trips could be replaced by telecommuting for a savings of $23 billion in time, energy, construction, and pollution-related costs. In comparison, $10 to $13 billion would be saved by a package of multimodal construction projects.

Employment in the service sector, which is most able to take advantage of telecommuting opportunities, comprises 50 percent of New England employment and is scheduled to increase to 53 percent in the next century. Based on the U.S. DOT forecast cited above and the size of the service sector, New England could potentially achieve a regional two percent to five percent reduction in daily single occupant vehicle trips by the year 2000. This reduction would, of course, be unevenly distributed across the region.

Economics

Forecasts in this section are based on national and regional data from the following sources: U.S. Census; U.S. Department of Commerce Bureau of Economic Analysis (BEA); New England Economic Project (NEEP); and New England Powers Planning (NEPOOL). Alternative forecasts provided by state agencies are included in the full document. These data represent the best information available at the time of publication. Updated forecasts are being developed all the time, particularly as the pace of economic recovery has accelerated.

The following table shows annual and total projected growth rates for New England through the year 2010, and a comparison to growth rates projected for the nation as a whole.

Category	Annual	Total	New England vs. U.S.
Population	0.4%	9%	67%
Employment	0.7%	15%	70%
Gross Regional Product	1.9%	47%	80%
Personal Income	1.2%	27%	75%

As shown, New England's rate of growth is projected to be about two-thirds as high as the nation as a whole in population and employment, and three-fourths as high in gross product and personal income. Gross product and personal income will increase faster than population and employment due to productivity gains and the general high value-added nature of technology-based service sector industries.

Growth will be greatest in absolute numbers in southern New England, but will be proportionately greater in northern New England. Population will grow 15 percent to 33 percent in the northern tier of states compared to one percent to eight percent in the southern tier; personal income will grow 41 percent to 58 percent in the north compared to 19 percent to 30 percent in the south. Population and employment densities will spread somewhat from the existing metropolitan areas, particularly into central New Hampshire, the Maine coast north of Portland, Massachusetts west of I-495, and Connecticut east of I-91.

In relating this growth to the requirements it will place on the transportation system, there will be a shift in the predominant types of freight shipments from larger to smaller manufactured products and materials, with an emphasis on highly efficient "just-in-time" deliveries, national and international connections, and servicing new cluster industries such as biotechnology.

Although the annual percentage increases in population and employment do not seem high, by 2010 there will be about one million more people and jobs in the New England region than there are today. This is about equal to the total population of New Hampshire. There will be more demand on commuting and intercity travel, both business and pleasure, with particular stress on providing both local and interregional access to tourist destinations with highly seasonal peaking characteristics.

Air Quality

As discussed in the Inventory Report, ozone is the pollutant of greatest regional significance in New England due to its potential for inter and intra regional transport, and the large number of non-attainment areas. The future trend of attention to ozone concentrations is mandated by the requirements of the Clean Air Act amendments. Therefore, it seemed more useful to examine recent historic trends to assess the likelihood of meeting the CAAA targets.

The seriousness of the ozone problem can be measured by the number of non-attainment days in a year and the second highest one-hour concentration. Nationally, there has been a 38 percent decrease in ozone non-attainment days and an eight percent decrease in the severity of the one-hour concentration between 1982 and 1991. While patterns within New England vary by state, within states, by indicator, and by year, southern New England has generally been trending downward while northern New England has remained stable. There have been "hot" summers (1983, 1988, and 1991) within the past decade in which ozone levels increased in comparison to the previous years.

Unlike carbon monoxide, the improvement in monitored ozone levels has not been proportional with the overall decrease in vehicle emissions resulting from the manufacture and purchase of cleaner cars. The historic trend carried into the future will not, by itself, be sufficient to achieve the National Ambient Air Quality Standards (NAAQS) for ozone under the CAAA without public policy intervention of the type discussed in the Inventory Report. The growth in vehicle miles of travel (VMT) results in emissions increases which offset to some degree the lower emissions of a cleaner vehicle fleet. Total mobile source VOC and NOx emissions currently are decreasing and are expected to continue to decrease until about the year 2010. At that time, the vehicle fleet will fully reflect the impacts of the new vehicle emission standards and the curve for total mobile source VOC emissions will start to increase.

The imposition of the California Low Emission Vehicle (LEV) standard, as recently voted by the Ozone Transport Commission, will achieve a light duty vehicle emission rate that is 31 percent lower for hydrocarbon emissions and 15 percent lower for nitrogen oxide emissions (the precursors of ozone) than the corresponding fleet emission rate that would result from the proposal by the American Association of Automobile Manufacturers.

Energy

As in the case of air quality, the increase in vehicle miles traveled during the past decade has offset improvements in vehicle energy efficiency imposed by the federal Corporate Average Fuel Economy (CAFE) standards. Between 1981 and 1991, energy consumption increased 10 percent nationally. Transportation accounts for approximately 25 percent of total energy consumption, unchanged over the past 30 years. There is, however, considerable state-to-state variation with transportation representing 40 percent of total energy consumption in Rhode Island, 43 percent in Vermont, and 35 percent in Maine. Within the transportation sector, petroleum products account for over 95 percent of consumption. Transportation today consumes 140 percent of domestic oil production, compared to 90 percent in 1973 at the start of the first energy crisis. In other words, transportation alone consumes more oil than is produced in the United States. Highway-related uses account for 77 percent of total transportation consumption. Of this amount, the percent consumed by autos has declined from 56 to 42 percent since 1970, with the difference being made up primarily by trucks.

Massachusetts and Vermont are the only New England states which have made recent energy forecasts. The New England Governors Conference is presently undertaking a regional forecast. Massachusetts forecasts an increase in total energy consumption of 48 percent through 2010, or 1.9 percent annually from 420 trillion BTU to 593. This forecast assumes implementation of the California LEV standards including electric vehicles.

Other Environmental Issues

Trends in the Environmental Framework for Transportation Decisions

Trends in environmental policies are shifting to identify key resources prior to impact evaluation, assess resources comprehensively and with respect to natural functions, and emphasize preventative strategies to manage environmental quality. The environmental framework is increasingly focused on the balance between these policies, quality of life considerations, and vital transportation projects.

Environmental regulations have long been a component in transportation decision making, but until recently, were focused primarily on project specific issues, sometimes overlooking how individual site impacts add up to create broader impacts. The growing emphasis on preventing these impacts requires a comprehensive approach to environmental management, including early and continual identification of important and sensitive resources, independent of specific projects. Natural boundaries, as defined by units such as ecosystems and watersheds, will become stronger influences in future environmental decisions. Ecosystems will be viewed as the primary resources to protect rather than the component parts defined by specific frameworks.

New approaches in environmental policy uncouple the objective of mobility from the assumption that improved mobility can only be provided by the automobile. Under ISTEA, for example, transportation decisions are required to address community quality, environmental protection, economic efficiency, and energy conservation. With examination of transportation alternatives considering intermodal tradeoffs and intermodal combinations, the combined goals of mobility and environmental preservation can be attained.

Land Use

Land development patterns are impacted by economic conditions, public land use policies, investment in transportation infrastructure, existing land use patterns, and environmental constraints.

There are four basic types of development patterns in New England – major urban, small urban, suburban, and rural. Under existing public policy and other external conditions, major urban areas can expect primarily infill development of existing lower density areas and redevelopment projects – hence, they will remain highly concentrated. Small urban areas will also see similar kinds of development and thus the potential for increased densities, but will also likely spread into adjacent fringe areas. Suburbs will maintain their traditionally less dense development pattern.

Rural areas will likely see new development as a continuation of the traditional low density development pattern, with exceptions at the location of new nodes such as casinos or other tourist attractions, shopping malls, or big box stores such as Walmart. If soils are adequate for wastewater disposal, the roadway infrastructure is usually the key factor in location decisions. The continuation of this pattern poses threats to the economic viability of traditional town centers, the aesthetic and visual experience of rural areas, and the maintenance of wetlands.

The New England states are in various stages of trying to develop public policies for impacting land development decisions. The Connecticut Conservation and Development Policies Plan for the years 1992 through 1997 focuses on the development of transit accessible locations primarily around existing highway corridors and on existing urban and adjacent areas. The 1988 Maine Growth Management Act has designated areas of growth and areas for the maintenance of a primarily rural character. In Massachusetts, the designation of Concentrated Development Centers (CDCs) is being encouraged in the Boston region. The 1989 Rhode Island land use plan encourages infill projects and contiguous growth areas. Vermont Act 200 seeks to concentrate growth in already developed areas and to coordinate land use and transportation planning through the state's Regional Planning Commissions (RPCs). In New Hampshire, land use planning is primarily guided by local policies.

Comments

This section contains all comments received subsequent to the Policy Committee review and revision phase, including comments from the State Advisory Committees, NERTAC members and public agencies.

#	From		Topic	Action taken in Executive Summary	Subject of Comment
1	CT. Advis. Comm.	CT	Institutional	acknowledged - no action within Executive Summary	Issues of Regional Significance rated from least important to most important.
2	CT. Advis. Comm.	CT	Highway	acknowledged - no action within Executive Summary	Issues of Regional Significance rated from least important to most important.
3	CT. Advis. Comm.	CT	Railroad	acknowledged - no action within Executive Summary	Issues of Regional Significance rated from least important to most important.
4	CT. Advis. Comm.	CT	Airport	acknowledged - no action within Executive Summary	Issues of Regional Significance rated from least important to most important.
5	CT. Advis. Comm.	CT	Ports	acknowledged - no action within Executive Summary	Issues of Regional Significance rated from least important to most important.
6	CT. Advis. Comm.	CT	Commuting	acknowledged - no action within Executive Summary	Issues of Regional Significance rated from least important to most important.
7	CT. Advis. Comm.	CT	Economics	acknowledged - no action within Executive Summary	Issues of Regional Significance rated from least important to most important.
8	CT. Advis. Comm.	CT	AQ & Energy	acknowledged - no action within Executive Summary	Issues of Regional Significance rated from least important to most important.
9	CT. Advis. Comm.	CT	Other Envir.	acknowledged - no action within Executive Summary	Issues of Regional Significance rated from least important to most important.
10	CT. Advis. Comm.	CT	General	No Action within Executive Summary	Regional events which cause traffic impacts should be included.
11	CT. Advis. Comm.	CT	General	Acknowledged	Transportation regulations should be standardized within NE.
12	CT. Advis. Comm.	CT	General	No Action within Executive Summary	Tax rates on trans. related business should be standardized within NE.
13	CT. Advis. Comm.	CT	Airports	Acknowledged - No Action within Executive Summary	General Aviation activity contributes significantly to local economy.
14	CT. Advis. Comm.	CT	IVHS	Acknowledged - No Action within Executive Summary	IVHS is extremely important to NE's transportation future.
15	CT. Advis. Comm.	CT	Transit	No Action within Executive Summary	More funding should go to transit.
16	CT. Advis. Comm.	CT	Highways	No Action within Executive Summary	Highway standards should be more flexible for rural areas.
17	CT. Advis. Comm.	CT	Land Use	No Action within Executive Summary	Land use/transportation planning should be under Organizational Issues.
18	CT. Advis. Comm.	CT	General	Current policies which hinder transportation are identified.	Operations and regulations which hinder business should be identified.
19	CT. Advis. Comm.	CT	Highways	No Action within Executive Summary	Scenic assets must be protected from impacts from increased traffic.
20	CT. Advis. Comm.	CT	Airports	wording change pg. II-4.	General Aviation's ability to increase intermodal connections should be included.
21	CT. Advis. Comm.	CT	Railroads	No Action within Executive Summary	Rail lines should have lower fees and higher speeds.
22	CT. Advis. Comm.	CT	Railroads	No Action within Executive Summary	Commuter & frieght lines should be better coordinated w/other systems .
23	CT. Advis. Comm.	CT	Railroads	No Action within Executive Summary	Abandoned railroad rights-of-way should be purchased.
24	CT. Advis. Comm.	CT	Railroads	No Action within Executive Summary	Rail connections to all major airports should be established/improved.
25	CT. Advis. Comm.	CT	Transit	No Action within Executive Summary	Improved coordination between transit systems will increase ridership.
26	CT. Advis. Comm.	CT	General	No Action within Executive Summary	The existing transportation network should be more efficient.
27	CT. Advis. Comm.	CT	AQ & Energy	No Action within Executive Summary	Alternatively fueled vehicles should be a priority.
28	NH. Advis. Comm.	NH	General	Addressed on pages ix and x.	Intermodalism should be stressed more.
29	NH. Advis. Comm.	NH	Trucks	wording changes on pg. ES-3 and ES-4.	In discussing standardized regulations, pro-truck bias should be eliminated.
30	NH. Advis. Comm.	NH	Pipelines/Bus	These are addressed within parameters of scope.	Pipelines and intercity bus should have more emphasis.
31	NH. Advis. Comm.	NH	General	wording changes on pg. II-6.	Expand Chap. 6 to include tourist and recreational trips, not just commuters.
32	NH. Advis. Comm.	NH	General	wording changes on pg. II-6.	Clarify "local access facilities".
33	NH. Advis. Comm.	NH	General	No Action within Executive Summary	Intermodal connectivity should consider traveler amenties and local access issues
34	NH. Advis. Comm.	NH	Land Use	wording changes on pg. II-8.	Clarify "sensitivity to land use patterns."
35	NH. Advis. Comm.	NH	General	wording change on pg. I-1.	Clarify relationship between service economy and environmental awareness.
36	NH. Advis. Comm.	NH	General	wording change within goals and objectives.	In discussing regulations, use value-neutral terms.
37	NH. Advis. Comm.	NH	General	wording change pg. I-3.	Social costs of investment decisions should be addressed.

#	From		Topic	Action taken in Executive Summary	Subject of Comment
38	NH. Advis. Comm.	NH	Railroads	No Action within Executive Summary	External rail links into NE are extremely important.
39	NH. Advis. Comm.	NH	General	No Action within Executive Summary	Even w/low population growth, ruralization could affect travel growth.
40	NH. Advis. Comm.	NH	Motor Carriers	wording change pg. ES-4.	Motor carrier access issues include urban congestion and accidents.
41	NH. Advis. Comm.	NH	Telecommuting	wording change pg. II-6.	Telecommuting could create further sprawl.
42	Morrison/RI Div. of Plan	RI	General	wording change pg. I-3.	Regulation and design affect automobile dependence more than planning
43	Morrison/RI Div. of Plan	RI	General	Intentional at this stage.	Use more specific wording for Issues; what is cause of problem.
44	Morrison/RI Div. of Plan	RI	Highways	wording change pg. II-2.	Highway issue #2. Suggested additional wording to strengthen statement.
45	Morrison/RI Div. of Plan	RI	Institutional	Intentional at this stage.	Institutional issue #3. Last sentence is too oblique.
46	Morrison/RI Div. of Plan	RI	Highways	wording change pg. II-2.	Highway issue #2 - How to meet highway capacity is very important issue.
47	Morrison/RI Div. of Plan	RI	Highways	wording change pg. II-2.	Highway issue #4. Review puncuntuation/meaning. Unclear.
48	Morrison/RI Div. of Plan	RI	Highways	No Action within Executive Summary	Highway issue #6. Legality and liability are also part of hwy. design standards.
49	Morrison/RI Div. of Plan	RI	Railroads	No Action within Executive Summary	Rail Issue #1 - Northest Corridor Rail Service is discussed in too general terms.
50	Morrison/RI Div. of Plan	RI	Railroads	No Action within Executive Summary	Rail Issue #2 - Freight rail/port connections are very important.
51	Morrison/RI Div. of Plan	RI	Railroads	wording change pg. II-3.	Rail Issue #4 - address under what conditions commuter rail is feasible.
52	Morrison/RI Div. of Plan	RI	Railroads	No Action within Executive Summary	Rail Issue #6 - Rail abandonment is indeed a critical issue.
53	Morrison/RI Div. of Plan	RI	Airports	wording change pg. II-4.	Rail Issue #10 - Lack of federal funds (not only ISTEA) is an important issue.
54	Morrison/RI Div. of Plan	RI	Ports	wording change pg. II-4.	Airport Issue #4 - review grammar.
55	Morrison/RI Div. of Plan	RI	Ports	wording change pg. II-5.	Port Issue #5 - Is harbor dredging being addressed elsewhere.
56	Morrison/RI Div. of Plan	RI	Ports	No Action within Executive Summary	Port Issue #8 - This is an important issue.
57	Morrison/RI Div. of Plan	RI	Telecommuting	No Action within Executive Summary	The study should shed more light telecommuting.
58	Morrison/RI Div. of Plan	RI	Economics	Acknowledged - No Action within Executive Summary.	Econ. Issue #3 - are also signage, maps, and multi-lingual information.
59	Morrison/RI Div. of Plan	RI	General	No Action within Executive Summary	Will improved interregional connections lead to reccomendations for key links.
60	Morrison/RI Div. of Plan	RI	General	wording change pg. II-7.	Growth rates are background issue - what is link to trans. strategies.
61	Morrison/RI Div. of Plan	RI	AQ & Energy	wording change pg. II-7.	AQ Issue #1 - background statement- not issue
62	Morrison/RI Div. of Plan	RI	AQ & Energy	No Action within Executive Summary	AQ Issue #2 - NETI may be too late to assist in devel. of region. ozone stndrds.
63	Morrison/RI Div. of Plan	RI	AQ & Energy	No Action within Executive Summary	AQ Issue #10 - too vague.
64	Morrison/RI Div. of Plan	RI	AQ & Energy	No Action within Executive Summary	AQ - Issues #5 with #3 could be combined.
65	Morrison/RI Div. of Plan	RI	Environmental	wording change pg. II-8.	Envir. Issue #1 - This is not an issue; combine with section introduction.
66	Morrison/RI Div. of Plan	RI	Land Use	wording change pg. II-8.	Land use planning doesn't provide major oppor. to change trans. behavoir.
67	Morrison/RI Div. of Plan	RI	General	No Action within Executive Summary	Quality of life Issue - how will this be addressed in the NETI study.
68	Morrison/RI Div. of Plan	RI	Highway	additional explanation on pg. ES-1.	Inconsistency with RI analyses.
69	Morrison/RI Div. of Plan	RI	Highway	wording change pg. ES-2.	review grammar.
70	Morrison/RI Div. of Plan	RI	Highway	wording change pg. ES-4.	review grammar.
71	Morrison/RI Div. of Plan	RI	Telecommuting	No Action within Executive Summary	request for addtional telecommuting data
72	Morrison/RI Div. of Plan	RI	Land Use	wording change pg. ES-14.	contiguous not continuous
73	Boggs/Warwick	RI	Environmental	addressed in Objective #3.	Object. #3 - NETI should examine impact on health care costs.
74	Boggs/Warwick	RI	Land Use	No Action within Executive Summary.	Object #4 - Only method to reduce congestion is to change land use patterns.

#	From		Topic	Action taken in Executive Summary	Subject of Comment
75/76	Boggs/Warwick	RI	Land Use	Acknowledged - No Action within Executive Summary.	Object #6 - Land Use planning and transportation planning must be linked.
77	Boggs/Warwick	RI	Highway	No Action within Executive Summary	HOV lanes do not work.
78	Boggs/Warwick	RI	General	wording change pg. II-2.	Grammatical correction, page II-2.
79	Boggs/Warwick	RI	Railroads	No Action within Executive Summary	Rail Issue #3 - should further market potential for bulk recycled products.
80	Boggs/Warwick	RI	Railroads	wording change pg. II-3.	Rail Issue #4 - ISTEA may be source of funding for commuter rail expansion.
81	Boggs/Warwick	RI	Railroads	No Action within Executive Summary	Rail Issue #6 - Immediate action should be taken to prevent rail abondonment.
82	Boggs/Warwick	RI	Railroads	No Action within Executive Summary.	Should study feasibility of short haul rail operations.
83	Boggs/Warwick	RI	Airports	No Action within Executive Summary.	Air Issue #5 - Complex air fare structures should be simplified.
84	Boggs/Warwick	RI	Ports	No Action within Executive Summary	Ports also provide employment through maintenance and construction activities.
85	Boggs/Warwick	RI	General	No Action within Executive Summary	If regions would adopt California standards, then have level playing field.
86	Boggs/Warwick	RI	Land Use	No Action within Executive Summary	Need coordinated consistent approach to land use planning.
87	Snyder/P&W Railroad	RI	Ports	Wording change on page ES-9.	Suggested wording change regarding South Quay facility.
88	Snyder/P&W Railroad	RI	Railroads	Wording change on page II-3.	Define many.
89	Snyder/P&W Railroad	RI	Railroads	Wording change on page II-3.	Clarify railroad jurisdiction and interlining problems.
90	Snyder/P&W Railroad	RI	Railroads	No Action within Executive Summary	The ONLY cooperative promotional effort is the private MA Railroad Association.
91	Snyder/P&W Railroad	RI	Railroads	No Action within Executive Summary	Trucks are not disadvantaged by paying fuel taxes - RRs also pay for their ROW.
92	Walsh/Save the Bay	RI	Environ.	Wording change on page I-1.	Object. #3 - suggested wording change.
93	Walsh/Save the Bay	RI	Environ.	No Action within Executive Summary.	Disappointed that "sustainable society" was eliminated as an objective.
94	Walsh/Save the Bay	RI	Environ.	Wording change on page I-3.	Object. #6 - suggested wording change.
95	Walsh/Save the Bay	RI	Highways	Wording change on page II-2.	Hwy Issue #2 - Should be reducing trips not just emissions.
96	Walsh/Save the Bay	RI	Environ.	No Action within Executive Summary.	Alternative Scenarios should include cost analysis.
97	Burke/Bennington Mtg.	VT	General	No Action within Executive Summary.	Rural transportation and connections to west from Bennington are important.
98	Burke/Bennington Mtg.	VT	General	No Action within Executive Summary.	Expenditures for Central Artery do not make sense.
99	Murphy/Bennington Mtg.	VT	General	No Action within Executive Summary.	Accessibilty for handicapped and elderly must be considered.
100	Bennington Mtg.	VT	General	No Action within Executive Summary.	Signage should be consistent throughout NE.
101	Schneider/Benning. Mtg.	VT	General	No Action within Executive Summary.	Rural economic development and tourism should be studied.
102	Bennington Mtg.	VT	General	No Action within Executive Summary.	Comment on the strength of the regional transportation coalition.
103	Voorheis/Burlington	VT	Airports	No Action within Executive Summary.	Airfare from Burlington to DC too high.
104	Voorheis/Burlington	VT	Airports	No Action within Executive Summary.	Fewer local flights should be served by Logan - should go to regional airports.
105	Hogan/Burlington	VT	Economics	No Action within Executive Summary.	Manufacturing jobs can still have major impact.
106	Burlington	VT	General	No Action within Executive Summary.	Historic resources of NE should be marketed.
107	Voorheis/Burlington	VT	Land Use	No Action within Executive Summary.	Project should consider growth center planning.
108	Riggs/Burlington	VT	Railroads	No Action within Executive Summary.	Railroads should move more goods than they currently do.
109	Gerecke/Burlington	VT	Motor Carriers	No Action within Executive Summary.	Trucks are unfairly subsidized when considering the resulting pavement damage.
110	Burlington	VT	General	No Action within Executive Summary.	Discussion comments from Burlington meeting.
111	Burlington	VT	General	No Action within Executive Summary.	Should study standardization of the gas tax.

#	From		Topic	Action taken in Executive Summary	Subject of Comment
112	Smith/Burlington	VT	General	No Action within Executive Summary.	Satisfied with goals and objectives.
113	Burlington	VT	General	No Action within Executive Summary.	Transportation investments in VT should support growth trends.
114	Burlington	VT	Airports	No Action within Executive Summary.	Burlington Airport numbers are wrong - no clarification offered.
115	Hogan/Burlington	VT	General	No Action within Executive Summary.	Northern natural gas cheaper than Texas gas used in Massachusetts.
116	Bender/VT Advis. Grp.	VT	Telecommuting	Addressed in Chapter 6.	Should study how changing nature of work will impact transportation.
117	McGuire/VT Advis. Grp.	VT	Airports	No Action within Executive Summary.	Airports are critical for tourism, not just commuting.
118a	McGuire/VT Advis. Grp.	VT	Airports	No Action within Executive Summary.	Need a full range of connections to Bradley Airport.
118b	McGuire/VT Advis. Grp.	VT	Airports	No Action within Executive Summary.	Small planes should not be priced out of Logan.
119	VT Advisory Meeting	VT	Railroads	No Action within Executive Summary.	Need to have double stacking across the entire state of VT.
120	Owen/VT Advis. Grp.	VT	AQ & Energy	No Action within Executive Summary.	Need to focus more on energy and regional dependence on imported oil.
121	VT Advisory Meeting	VT	AQ & Energy	No Action within Executive Summary.	Should include CONEG study of alternative fuels and refueling infrastructure.
122	Martinez/RIDC	VT	Telecommuting	No Action within Executive Summary.	Telecommuting induced reductions in urban trips may increase rural trips.
123	Martinez/RIDC	VT	Railroads	No Action within Executive Summary.	Since done for trucks, regulatory barriers for railroads should be included.
124	Martinez/RIDC	VT	Land Use	No Action within Executive Summary.	Include more discussion on link between land use and transportation planning.
125	Martinez/RIDC	VT	Economics	No Action within Executive Summary.	Need to maintain existing manufacturing jobs.
126	Martinez/RIDC	VT	Economics	No Action within Executive Summary.	The importance of just-in-time delivery is accurately described.
127	Pennington/VT Railway	VT	Railroads	No Action within Executive Summary.	Frieght service forecasts should be developed.
128	Pennington/VT Railway	VT	Railroads	No Action within Executive Summary.	Freight deliveries require fewer rail cars than semi-tractor trailer delivery.
129	Pennington/VT Railway	VT	Railroads	No Action within Executive Summary.	VT railroads operate at 1/3 capacity; growth potential exists.
130	Pennington/VT Railway	VT	Railroads	No Action within Executive Summary.	Report does not quantify which goods are moved by what mode.
131	Pennington/VT Railway	VT	Motor Carriers	No Action within Executive Summary.	Increasing truck weights are causing increased pavement damage.
132	Giovanetti/Massport	MA	Airport/Ports	No Action within Executive Summary.	Economic viability of Logan depends on efficient movement of people & goods.
133	Giovanetti/Massport	MA	Airports	No Action within Executive Summary.	Should be coordinated use of all NE aviation capacity.
134	Giovanetti/Massport	MA	Airport/Ports	No Action within Executive Summary.	International role of cargo volume must be stressed.
135	Giovanetti/Massport	MA	Ports	No Action within Executive Summary.	Smaller ports must serve niche markets to remain competitive.
136	Giovanetti/Massport	MA	Airports	addressed in Airport Issue #3.	Logan is NE primary international gateway.
137	Giovanetti/Massport	MA	Airports	wording change on pg. II-4.	Regional airports should provide access to ground transportation.
138	Giovanetti/Massport	MA	Airports	Acknowledged - No Action within Executive Summary.	Planners should be cautious about using the low end demand forecasts.
139	Giovanetti/Massport	MA	Airports	No Action within Executive Summary.	Full Intermodal connections between Logan & MBTA should be persued.
140	Giovanetti/Massport	MA	Airports	No Action within Executive Summary.	Suggested wording change.
141	Giovanetti/Massport	MA	Airports	Wording change on page II-4.	Air Issue #4 - include reference to Worcester
142	Giovanetti/Massport	MA	Airports	Wording change on page ES-7.	Describe Worcester as "major regional airport" not "reliever airport".
143	Giovanetti/Massport	MA	Airports	No Action within Executive Summary.	Air Issue #7 -Add demand for air cargo facilities.
144	Giovanetti/Massport	MA	Ports	Wording change on page ES-8.	Add dredging to factors affecting cargo distribution.

#	From		Topic	Action taken in Executive Summary	Subject of Comment
145	Giovanetti/Massport	MA	Ports	No Action within Executive Summary.	Iron & steel can be either "discretionary" or "captive" cargo.
146	Giovanetti/Massport	MA	Ports	wording change on pg. ES-8.	Clarify regional distribution of container cargo.
147	Giovanetti/Massport	MA	Ports	No Action within Executive Summary; see pages vi and II-3.	Double stacking rail initiative is not sufficiently emphasized.
148	Giovanetti/Massport	MA	Ports	No Action within Executive Summary.	Pipelines may be solution to Chelsea Creek problems.
149	Giovanetti/Massport	MA	Ports	No Action within Executive Summary.	Boston Harbor fishing facilities are not mentioned.
150	Giovanetti/Massport	MA	General	Acknowledged - No Action within Executive Summary.	Suggested issues for alternative scenarios.
151	Loiselle/RIDOT	RI	AQ & Energy	Correction is for main report.	Figures 5.8 - 5.10, indicate where the RI monitoring station is.
152	Loiselle/RIDOT	RI	General	Correction is for main report.	In Figure 7.2, correct the "70 to 90" label.
153	Loiselle/RIDOT	RI	AQ & Energy	wording change on pg. ES-12.	Indicate individual states consumption of transportation energy.
154	Loiselle/RIDOT	RI	Railroads	wording change on pg. ES-5.	Add ridership estimates for proposed Providence to Westerly line.
155	Dempsey via RIDOT	RI	Institutional	No Action within Executive Summary.	Create an Objective Review Board as a public/private partnership.
156	Dempsey via RIDOT	RI	General	No Action within Executive Summary.	NETI proposals should be integrated into state's TIP process.

Comments from Connecticut

NETI Citizens Advisory Committee
Importance of Regional Issues

Importance			
		Institutional Issues	
Most	1.	Development of a National Transportation System	
Less	2.	Public/Private partnerships	
Most	3.	Financing transportation projects	①
Least	4.	I-95 coalition and IUHS	
Least	5.	Development of advanced methodologies	
Less	6.	Better freight data	
		Highway Issues	
Most	1.	Maintaining existing infrastructure	
Most	2.	HOV facilities and TDM	
Most	3.	Required capacity expansion	②
Less	4.	Commercial vehicle regulatory barriers	
Least	5.	Rural intercity bus	
Least	6.	More flexible design standards	
		Railroad Issues	
Most	1.	Northeast corridor	
Least	2.	Land bridge between seaport connections	
Most	3.	Intermodal rail freight/waste material	
Most	4.	Sharing of rail facilities - intercity, commuter and freight	
Less	5.	High speed rail impact on air and interstate auto travel	③
Least	6.	Abandonment of rail freight lines	
Less	7.	North station/South station connection	
Less	8.	New cross Hudson River freight connection	
Less	9.	Railroad jurisdiction and interline problems	
Least	10.	ISTEA funds for rail freight	
		Airport Issues	
Most	1.	Ground Access	
Most	2.	Impact of high speed ground transportation	
Less	3.	A second regional airport/commuter access to Logan	④
Most	4.	Maximizing the role of Bradley International Airport	
Least	5.	Route and fare structure	
Less	6.	Smaller aircraft and general aviation	
Least	7.	Funding of the Airport Improvement Program	
		Ports	
Most	1.	Intermodal rail connections	
Less	2.	Ability to expand port capacity	
Less	3.	International Trade Agreements	⑤
Most	4.	Marketing of ports for new petroleum products	
Least	5.	Dollar value of cargo shipped	
Less	6.	Water passenger services	
Least	7.	Pipeline port connections	
Least	8.	Intra-regional competition of ports	

Trends in Commuter Behavior

⑥

Most	1.	Changing demographics and flexible work arrangements

Economics

⑦

Most	1.	Just-in-time delivery
Least	2.	External connections to increase tourist and business travel
Most	3.	Tourist traffic and seasonal peaking requirements
Less	4.	Servicing cluster development by transportation
Least	5.	Slower economic population and employment growth

Air Quality and Energy

⑧

Most	1.	Non-attainment for ozone impact on the transportation system
Most	2.	Strategies for meeting CAAA ozone standards
Less	3.	Alternative fuel vehicle program
Least	4.	Evaluating the interdependence of ISTEA and CAAA
Most	5.	Regional clean and alternative fuel program

Other Environmental Issues

⑨

Least	1.	Settled matter of law on which the NETI project could have a minimal impact
Less	2.	Clean Water Act and wetland/waterway protection issues
Most	3.	Land use planning to minimize VMT growth
Most	4.	Aesthetic and quality of life issues, i.e. personal mobility, traditional town centers, rural vistas, historic places

Various concerns about objectives, policy and issues were raised by the members of Connecticut's NETI Citizens Advisory are as follows:

- Regional events that have regional traffic problems which need advanced planning should be considered in the NETI study. (10)

- From a regionalism point of view the regulations governing transportation of the New England States should be the same. It would reduce the paperwork and costs associated with moving goods and people across state line which would result in a seamless transportation network in New England. (11)

- The state tax rates and state regulations on transportation related businesses should be standardized for the New England States. It is resulting in out of state truckers operating more cost effectively and gaining a competitive advantage over local truckers. (12)

- General Aviation has strategic importance that can't be quantified for the locations of businesses, just in time delivery, and moving specialized personnel throughout the region. The measurement of only enplanements and dollar figures doesn't explain the importance of it to the region. (13)

- The Intelligent Vehicle-Highway System (IVHS) is extremely important to the transportation future of New England. Strategies for the next 5, 10, and 15 year periods relating to IVHS technologies should be identified in NETI. (14)

- The bulk of the funding goes towards the highways. More funding should go towards Mass Transit. (15)

- The highway standards should be flexible. Roads out in the rural areas should not have the same standards as roads in the urban areas. The definition of what a safe operation is should be defined. (16)

- The coordination of land use and transportation planning should be in the organizational section. (17)

- Governmental operations and regulations should be included in the study. Operations and regulations that hinder business should be identified. (18)

- The rural areas and scenic assets must be preserved in face of increasing traffic. (19)

- General Aviation should not be written of as something non-important. A methodology to measure General Aviation's (20) contribution to intermodalism should be explored.

- Rail Lines should have lower trackage fees and the restrictions on speed should be reduced. (21)

- Commuter and freight lines should be better coordinated with the other transportation systems. (22)

- The railroad rights of ways that are being abandoned should be bought. (23)

- Rail or trolley connections is desired to all major airports to improve the movement of people to and from airport. (24)

- By building a more coordinated public transportation networks more people will use it. (25)

- The existing transportation network should be made more efficient. (26)

- Alternative fuel vehicles should be made a priority item for the states to study. (27)

Comments from Massachusetts

Mr. Charles Repeta. Project Director
New England Transportation Initiative (NETI)
Executive Office of Transportation and Construction
Transportation Building
Ten Park Plaza
Boston. MA 02116

June 6. 1994

Re: COMMENTS REGARDING DRAFT NETI REPORT

TRANSPORTATION FORECASTS. GOALS AND OBJECTIVES. AND ISSUES OF REGIONAL SIGNIFICANCE *(Executive Summary--April 1994)*

Dear Mr. Repeta:

As you requested. we have reviewed the above document for points of interest to Massport. In general. the subject is of importance to Massport's central mission as an economic engine for the region and for New England. The approach articulated for the study is sound. However. to make the study's results more useful to Massport--and to the Commonwealth more generally--the following points are suggested for inclusion or greater emphasis:

Goals and Objectives

Overall. the language in this section is very good and closely mirrors Massport's own goals. but. we offer the following ideas and views:

1. **Massport intermodal role**--Massport occupies a unique position--both geographically and functionally--as an agent of intermodal operations and coordination. Our facilities and our operations interface with and depend on almost all freight and passenger modes operating to and within the region. Our viability as an economic engine thus depends on the efficient interchange of passengers between rapid transit. bus. limo. courtesy vans. private auto (park or drop-off). taxi. and plane. Goods movements rely on our ability to provide efficient interchange between plane. ship. truck highway. and intercity rail. All these modes converge within a one-mile radius of downtown Boston. presenting Massport with both challenges and opportunities in our role of transportation operator and economic catalyst. (132)

2. **Gateway role**--Massport and Boston is the primary gateway to both the Greater Boston region and New England. Yet the limited capacity to accommodate growth in demand for our facilities means. however. that greater attention needs to be directed toward the better use of those facilities beyond Boston that have excess capacity. How can Massport Massachusetts distribute new demand for access to other locales within the state and within New England to better utilize these facilities? For example. we believe that it is desirable to coordinate the use of airports within New England to make the best use of (133) all available aviation capacity. Furthermore. there is a strong economic development commitment to strengthening regional transportation links throughout New England. We should use this as an opportunity to emphasize the Logan and Worcester opportunities (and needs). Other "win-win" opportunities benefiting Boston and other locales within New England might be explored in the proposed scenario analysis.

3. **International aspects**--Massport and the Commonwealth have embarked on a major initiative to promote Boston and New England as a tourism. convention. and global business venue attraction. Intermodal cargo volume is not tied to the New England economy. but to the economies of the regions taking part in international trade. With (134) current technology. rail movements of containers become economically feasible at a distance of about 800 miles. For this reason. the cargo volumes are tied to regional economies in major inland markets. such as Toronto and Chicago. Not only are New England ports closer to Europe than other U.S. east coast ports. but they are closer to the Far East on the Suez Canal route. This international role appropriately should be given greater attention in the scope of the proposed next phases of study within NETI (p. I-1. =2).

4. **Niche cargo hub**--Recent and planned initiatives within Massport are designed to strengthen Massport as an international and trans-national cargo port. The double-stack rail initiative and our increasingly aggressive marketing efforts are intended to support this new economic role. at both the seaport and the airport. The desired results of these initiatives might be more explicitly addressed within NETI. (135) The automobile industry is consolidating its marine terminals to a few ports on the U.S. east coast. The trend began with consolidation by **container** carriers to load centers. The Port Authority of New York New Jersey and the Port of Montreal are load center ports on the northeast coast of the U.S. and eastern Canada. For this reason. ports like Boston and Halifax. as well as the smaller ports of New England. must carve out niches and specialties to remain competitive (p. II-3. Railroads). Also. cargo which can readily shift among ports is known in the industry as "discretionary cargo." Cargo which cannot readily shift among ports is known as "captive cargo" (p. II-5. Ports).

Aviation Policies

In general, this section warrants strengthening. The following points are suggested for incorporation:

- As Massport has stated in numerous forecast and planning documents (most recently the response to the SAR), Massport can and should be supportive of increasing domestic passenger and cargo activity at other regional airports. Indeed, the success of the Logan 2000 modernization effort depends in part on other airports doing their share in absorbing growth in regional air travel demand. In any strategy to minimize intra-regional competition, Logan is and should be, clearly identified as New England's primary international gateway, and other airports should develop their service plans accordingly. (Of course, this has implications for commuter service to from Logan) (136)

- An item might be added that says that the modernization of Logan is critical to the overall air transportation system in order to accommodate New England air passenger demand, to continue to serve as the chief international port and regional hub (137)

- We believe that the FAA Terminal Area Forecasts adequately portray future growth rates for passenger enplanement. As we observed in our SAR response, however, planners should be leery of ***low-end*** transportation demand forecasts based on economic projections. Such forecasts, if used as the basis for capacity planning, tend to be too constricting--by under-representing the potential for increased economic activity. A 4% growth for Logan is mid-range for our forecasts (it represents approximately 45 mil in 2010): our scenarios go from 34 to 55 million annual passengers. (138)

- Item 1 on Airports (11-4) states that: "The issue is critical today at Logan Airport." This section should state that plans to modernize Logan that include intermodal connections to Boston's MBTA system should be fully pursued. Also: "All regional airports should strive to make efficient connections to their host regional ground transportation systems." (139)

- Rewrite Item 3 slightly to emphasize the regional network. "The development of a regional air transportation system should include a system of smaller regional airports (20 runways in Ne England). (140)

- In Item 4, include parallel reference to Worcester (in addition to Bradley) as an underutilized resource. (141)

- Midway in paragraph 4 Page ES-7." designates Worcester as a regional reliever airport for Logan". A more appropriate characterization might be "major regional airport" not "reliever." especially if Logan growth rates are at the high end and there is no apparent net relief relative to today's conditions. (142)

- Add demand for air cargo facilities (p. II-5. Airports) (143)

Port Policies

- Add dredging to the list of internal and external factors affecting cargo tonnage (first paragraph). (144)

- Iron and steel may be either discretionary or captive cargo. Steel to/from inland points can be handled in any port with good rail connections and skilled labor (second paragraph). (145)

- Container cargoes moving through New England ports are almost exclusively local cargoes. A small percentage of midwestern and Canadian cargo moves by rail. These markets represent major growth opportunities. However. local New England cargoes also represent a growth opportunity. as Montreal and New York New Jersey presently capture a large percentage of New England cargoes (fourth paragraph). (146)

- The double-stack rail initiative is not emphasized sufficiently. especially within the modal issues section on railroads doublestack clearances would increase the capacity of existing rail infrastructure without the need to acquire rights of way or construct additional trackage (p. I-2. #4). Efficient and effective connections to the national transportation system require that we have equal connections. Massachusetts rail infrastructure should include doublestack clearances to match those of New York state to our west. (p. I-3. #9). (147)

- Pipelines may be a solution to the problems in Chelsea Creek although feasibility studies are still being undertaken. For example. the Port of Saint John. New Brunswick has an outer harbor petroleum terminal with pipeline connections to shoreside storage and refinery facilities. (148)

- The Boston harbor fishing facilities are not explicitly mentioned as an activity of consequence in the report (149)

Scenarios

In addition, we anticipate that the usefulness of the NETI results will be greater if these general aspects are incorporated in the scenarios that are developed and evaluated.

- The scenarios should include one in which:
    - there is unconstrained funding and highly constrained funding availability
    - The New England regional economy is optimized, vs. each New England state being optimized

150

- Opportunities for private sector involvement in planning, decision-making and financing should be emphasized and fleshed out: gross location choices and decisions need clarification in scenarios

- Trends in intermodal partnering should be included in the analyses, as should the trend in warehousing systems that support intermodal operations

- Union issues at the port facilities must be realistically addressed in the scenarios

- The value of the interconnectivity among New England states needs to be clarified by the scenario analysis: costs to consumers, competitiveness of the region, business advantages, etc. These data might lead to a clearer understanding of the best investment strategies.

Comments from New Hampshire

Post-It™ brand fax transmittal memo 7671 | # of pages ▸ 2

To MARC CUTLER	From KIT MORGAN
Co. CSI	Co. NH DOT
Dept.	Phone # 603 271-2564
Fax # 617 48[illegible]8 354-1542	Fax #

New England Transportation Initiative
New Hampshire Advisory Committee

Comments on Goals and Objectives, Issues, and Forecasting Report

Six members of the New Hampshire Advisory Committee were present for a meeting May 19, 1994 (written comments were received from a seventh member). The following comments resulted from that meeting.

Issues

The committee was concerned about the project being divided by mode. This conflicts with the stress on intermodalism. In some cases modes are treated differently, revealing a bias against non-highway using modes. For example, in some areas the report supports the trucking industry with specific suggestions (see the Forecasting section, page ES-4), while it does not offer suggestions for restoring a successful rail passenger or freight system (see 3.4 and 3.6). The strategies listed under 2.2 should include a mode shift in the freight area, such as for petroleum products to pipelines. (28)

Standardizing regulations, including for motor carriers, should recognize regional differences, and should not replace state-level safety regulations. This section of the report should avoid a pro-truck bias. (29)

More emphasis, by separating them from more broadly defined modes, should be placed on pipelines and intercity bus. Issues to consider include examining petroleum as a proportion of truck traffic. The report should suggest more than "maintaining" the intercity bus system, which in many areas is now non-existent. (30)

Section 6 should be developed more fully and broadened to encompass "personal travel behavior," not just commuter travel. Tourist and recreational travel should be considered, for example. The land use-transportation issues relate to more travel patterns than just commute trips. (31)

Clarify what "local access facilities" ~~means in~~ 7.3 (p II-6). (32)

One issue in intermodal connectivity is the existence of passenger amenities: parking and local services (such as car rental where appropriate). (33)

Clarify the meaning of 9.3: does being sensitive to "patterns which may want to emerge for other reasons" mean supporting suburban sprawl? (34)

Objectives

3) Clarify the connection between the service economy and environmental awareness; is this a cause-and-effect relationship? (35)

The discussion on regulations and their impact on projects uses modifiers that should either be defined or avoided: "inordinately," "necessary," "reasonable." (36)

8) This section should include a statement that true cost, including social costs, of various modes should be considered in investment decisions and in modeling; i.e. compare alternatives on a level playing field. The section should be titled in a way that reflects its broader content. (37)

9) Emphasis on external rail links to New England is of considerable importance. (38)

Forecasting

Page ES-1: Low population increase projections may be appropriate, but changes in land use (e.g. ruralization) could disproportionately affect travel growth. (39)

Page ES-4: Motor carrier access to urban centers has an impact on peak-hour congestion, especially when accidents occur, and may need to be controlled. (40)

Page ES-10: The report should not discount the potential impact of large-scale telecommuting, which could contribute to further sprawl through development of remote work sites. (41)

Comments from Rhode Island

STATE OF RHODE ISLAND
Department of Administration
DIVISION OF PLANNING
One Capitol Hill
Providence, RI 02908-5870

MEMORANDUM

To: Janis Loiselle
Rhode Island Department of Transportation

Subject: NETI draft report on goals and objectives, issues, and forecasts

Date: May 18, 1994

This memo provides my more detailed comments on the draft report *Transportation Forecasts, Goals and Objectives, and Issues of Regional Significance: Executive Summary*, which you distributed for the May 16 NETI Public Advisory Committee meeting.

I. Goals and Objectives

These are well stated and complete.

On page I-3, number 6, second-to-last line, after "land use planning," I suggest adding ",regulation, and design." The development patterns that continue to foster automobile dependence are more a result of these phases than of planning. ㊷

II. Issues of Regional Significance

As an overall comment, I feel that these are sufficient for purposes of listing topics to be addressed in the plan. It would be more useful, however, if they went an additional step and were more specific in identifying the issues; i.e., pointed toward the root of the problem or the role of the states. As presently worded, many of them sound more like background statements or objectives, and the issues confronting the states are not as clear and specific as they could be. (See itemized comments below.) ㊸

On page II-1, section 1.0, number 2, we often see partnerships proposed the other way, as an opportunity for private economic development to proceed with the help of public transportation funding. Perhaps this statement could be broadened to say "Public/private partnerships present an opportunity for creative approaches to addressing transportation and economic development needs in an era of constrained finances." ㊹

In the same section, number 3, the last sentence is too oblique. To whom should the user-fee base be broadened? It already includes automobiles and trucks and, increasingly, includes air travelers. That leaves public transit, freight rail, and waterborne ㊺ transportation; but these are usually viewed as the modes that suffer from subsidies to other modes.

On page II-2, section 2.0, number 2 (how to meet highway capacity limitations) is a very important issue. The statement here could be strengthened by adding "Determine which demand-management strategies would be both effective and feasible (acceptable to the public) in the New England states." ㊻

In the same section, number 4, the second sentence has something wrong with the sentence structure. Either some wording or punctuation is missing. ㊼

In number 6, highway design standards are certainly an issue, not just regionally but nationally. Will it be dealt with in this study? As stated, it sounds like an engineering problem; we have concluded that it is more a legal/liability issue. ㊽

On page II-3, section 3.0, number 1 (Northeast Corridor rail service) is stated in a very generalized way. Some indication should be given of the role of the states. ㊾

In the same section, number 2 (development of freight rail-port connections) is an important issue, and this study seems like an ideal vehicle to address it. ㊿

In number 4 (commuter rail expansion), the particular issue that we would like to see addressed is under what circumstances (in what types of locations) is it suitable and feasible? This is an even more basic issue than financing and also precedes the issue mentioned about shared facilities. The public seems to be very supportive of commuter rail but to have no understanding of the economics; i.e., the geographic and demographic characteristics that will make it an effective means of transportation, compared to alternative, less glamorous modes such as buses and vanpools. (51)

Number 6 (rail abandonment) is also a critical regional issue, appropriate for this study. (52)

On page II-4, still in section 3.0, number 10 is too narrowly worded. Not only the ISTEA prohibition on FHWA funding but also the virtual non-existence of FRA funding are problems; the issue is the lack of any federal assistance. (53)

On the same page, section 4.0, number 4 (Bradley airport), the word "represent" is ungrammatical and could be replaced by simply "is." (54)

On page II-5, section 5.0, number 2 (harbor dredging), the issue would be better framed by mentioning dredged spoils disposal and by indicating whether the problem is already being dealt with in other forums than this study. (55)

On page II-6, number 8 (regional port strategy) is a critical issue for this study. It overlaps number 3.0-2 (rail-port connections). (56)

In section 6.0, it would be useful if the study could shed light on this issue, examining the various factors at play and the extent to which telecommuting could affect travel. (57)

In section 7.0, number 3 (tourist traffic), related issues are signage, maps, and multi-lingual information. (58)

In the same section, will number 4 (improved intraregional transportation) lead to recommendations for key links? (59)

Number 5 (growth rates) is noteworthy but is more of a background statement. What exactly would be the issue? (60)

On page II-7, section 8.0, number 1 is also just background. It could be incorporated into a related issue statement, such as the next one. (61)

In the same section, number 2, first sentence, the NETI study may be too late to help with the second and third items, unless work has already gone forward. The strategies effort would be helpful; this overlaps issue 2.0-2. (62)

Number 4 is too general, and the work should already have been done on a state-by-state basis. (If the statement is retained, better wording than "sources of pollution" would be "strategies.") (63)

Number 5 could be combined with 3. (64)

In section 9.0, number 1 is not really an issue. It could be moved to the preceding paragraph, as part of the introduction. (65)

On page II-8, number 3, we would disagree with the word "major" at the beginning. In New England, land use patterns will not change dramatically, because of the extent of existing development and the low growth forecast. The word "different" at the end is also an overstatement. (66)

On the same page, number 4 (quality of life issues) is true, but how might this study address it? Where is this observation leading? (67)

III. Forecasts/Trends Assessment (Executive Summary)

On page ES-1, second-to-last paragraph, the Rhode Island segments identified (except for RI-136) are not consistent with our analyses. I realize that NETI used a broad-brush methodology for projecting highway volume-to-capacity ratios, which will not be redone. For the record, however, our long-range transportation plan forecasts capacity deficiencies on the following major routes: the I-95 corridor, including RI-10 and RI-2, in the Providence metropolitan area; I-195; RI-146; and the entire East Bay corridor (north-south routes in Bristol County and Aquidneck Island). Also, in referring to Route 1A, your study should identify the location; this route name is used throughout the state from Westerly to Pawtucket. (68)

On page ES-2, fourth paragraph, unsurprisingly, none of these planned Rhode Island highway projects responds to the capacity problems found in this study. Our planned projects to address the deficiencies that we have identified (see paragraph above) include RI-10 widening; I-95 ramp improvements and service roads; a full interchange at I-95/RI-2; New Red Bridge extension to US-44 (this parallels I-195), possibly as an exclusive busway; and more express bus routes from park-and-ride lots. Also in this paragraph, line 1, "east of" should read "in." (69)

On page ES-4, fourth-to-last line, "transactions" should be singular. (70)

On page ES-10, the discussion of commuting trends is significant. Besides the 15 percent increase in telecommuting nationally, mentioned at the end of the second paragraph, it would be interesting to have a figure on telecommuting as a percent share of total journeys-to-work (and non-journeys) in New England. (71)

On page ES-14, fourth-to-last line, "continuous" should read "contiguous." (I hope that this is the last time we comment on the study's description of the Rhode Island land use plan.) (72)

Thank you for the opportunity to review this draft. If there are any questions about these comments, I can be reached at (401) 277-1220.

Susan P. Morrison

Susan P. Morrison
Chief, Office of Systems Planning

CITY OF WARWICK
PLANNING DEPARTMENT

CITY HALL ANNEX
3275 POST ROAD
WARWICK, RI 02886-7298

TELEPHONE: 401-738-2000
FAX: 401-732-1307
TDD: 401-739-9150

Lincoln Chafee
Mayor

Jonathan Stevens
Director

Office of Planning

Office of Community Development

Office of Zoning

Planning Board

Zoning Board

Conservation Commission

Harbor Management Commission

Historic District Commission

Historic Cemetery Commission

MEMORANDUM

TO: Janis Loiselle, RIDOT

FROM: Stuart R. Boggs, Principal Planner

DATE: May 18, 1994

RE: Comments on the NETI Executive Summary

The following are a few comments on the draft ***Transportation Forcasts, Goals and Objectives, and Issues of Regional Significance Executive Summary.***

Page I-1 Objective #3.

The study seems to take the position that preservation of the environment is valuable only for its potential tourism value. What the report fails to recognize are the very real health costs of a degraded environment. Rising health costs can have a direct impact on a region's economic viability since these costs can serve as a disincentive to locating or expanding businesses in the region. (73)

Page I-2 Objective #4.

Technological advances such as IVHS or bigger and better highways do not address the underlying problems that foster congestion. As such they are only expensive bandaids. The underlying problem is an auto dominated transportation system and the dispersed pattern of land development that is its legacy. Only by fostering a land use pattern that encourages intermodalism and reduces vehicle miles of travell (VMT) can we hope to address the problems of congestion and inadequate capacity. (74)

Page I-2 Objective #6.

This cannot be overstated. ***Land use planning and transportation planning must be linked.*** In fact, transportation planning has had a profound affect on land use since the end of World War II when construction of the new interstate highway system fostered suburban development of a previously remote hinterland. This pattern of land use development only became possible through conscious government action as manifested by the development of the national highway system and (75)

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Post War low interest veteran mortgages that made homeownership possible for many more Americans than had previously been the case.

Arguing as it does that modifying this pattern can .."only occur at the margins." fails to recognize the potential for in-fill development and redevelopment. By fostering higher development densities along identified transportation corridors, communities can lay the ground work for development of cost effective transit corridors and for a pattern of land use that is easier to provide public services to. Conversely, communities must discourage suburban development of presently rural areas. (76)

Page II-2 Section 2.0 - 2.

HOV lanes don't work. You only have to look at Boston to see that. (77)

Page II-2 Section 2.0 - 4. Third sentence:

Change "Their" to "There". (78)

Page II-3 Section 3.0 - 3.

This brings up an interesting point. Maybe we should be looking at national markets for bulk recycled materials such as waste paper which could be shipped out of the region by railroad. By developing a wider market, it might be easier to find buyers for recycled materials. (79)

Page II-3 Section 3.0 - 4.

ISTEA offers a possible solution. Transit planning and funding could be handled/funnelled through Metropolitan Planning Organizations (MPOs) that can straddle state lines. (80)

Page II-3 Section 3.0 - 6.

While the region is developing this abandonment strategy raillines are going to continue to be abandoned. We should push for an interim strategy of Right-of-Way (ROW) preservation to insure that the remaining system is not lost while we weave our grand scheme. A rail system is like a tree, if you cut off all of the branches all you are left with is a dead trunk. (81)

Page II-3 Section 3.0 - general comment.

Maybe we should be looking at the creation of short haul rail operations to operate (82) low profit spur lines. These are the lines most threatened by abandonment by the mainline railroads. Short haul operations provide valuable interconnection services to the "bridge" routes and because of their small size can operate their lines at a profit, something not possible for a mainline railroad with high operating and infrastructure costs. Look at examples around the country and try to emulate the success stories.

Page II-4 Section 4.0 - 5.

"Concern" with fare structure? The byzantine complexity of airfares is the single biggest impediment to air travel. The fare schedules read like a 1040 long form on drugs. Encouraging the airlines to adopt a region to region standardized fare structure would go along way to eliminating the confusion (ie. set fare from region "A" to region "B", region "C", etc., similar to AMTRAK's All Aboard America Fares.). (83)

Page II-5 Section 5.0 - general comments

Ports are more than just gateways, they also provide facilities for ship maintenance and construction. Since these activities generate considerable employment, and provide a market for raw materials (ie. lumber, steel, lubricants, fuel, etc.) maybe we should be looking at retaining/enhancing this aspect of our port facilities. Subsidizing these activities could pay dividends to the regional economy that would fare outweigh the cost of such subsidies. (84)

Page II-7 Section 8.0 - general comment

If all regions in the country adopted the California standards we would be on a level playing field and have the "critical mass" the study calls for. (85)

Page ES-14, last paragraph.

The range of responses to the need for integration of land use and transportation decisions by state demonstrates the need for a coordinated and consistent approach to this issue. The designation of CDCs in the Boston area should be extended to the state's other urban centers including Worcester and Springfield. New Hampshire's laisse-faire approach can have negative impacts on neighboring states, specifically along common borders. The development of a consistent, comprehensive region-wide policy must be a one of the first priorities of the New England Transportation Initiative. (86)

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STATE OF RHODE ISLAND
DEPT. OF TRANSPORTATION
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PUBLIC WORKS
DESIGN SECTION

May 9, 1994

Ms Janis Loiselle
Special Projects Coordinator
RIDOT
Division of Public Works
Design Section 231-D State Office Building
Providence, RI 02903

Dear Janis:

I have reviewed the "Transportation Forecasts..." and have the following comments:

1. A description of P&W's East Providence South Quay facility should be added in section 5.4.2 of the main report and page ES-9 of the Executive Summary. The enclosed page has our preferred text. (87)

2. On page II-3 of both reports, Item 6, I am not aware that "many" rail facilities still face the threat of abandonment. Which specific lines are the consultants referring to? When we know those we can comment as to whether there are "many". (88)

3. On page II-3 of both reports, Item 9. What do they mean by "railroad jurisdiction and interlining problems" and who has been stating this is a "major issue"? (89)

4. Page 2-13, second last paragraph. What specific actions are the people making the statement "It is noted in Massachusetts there is an effort to promote the rail industry..." thinking of when they made this statement. From P&W's situation, the Ft. Devens and doublestack clearance projects proposed by the Commonwealth would seriously hurt our company's business. The only cooperative promotional effort is the private Massachusetts Railroad Association. Of course, the individual railroads also pursue their own business development projects. (90)

PROVIDENCE AND WORCESTER RAILROAD COMPANY
75 HAMMOND STREET, WORCESTER, MA 01610 P.O. BOX 16551, WORCESTER, MA 01601
TELEPHONE (508) 755-4000

Description of P&W's South Quay development.

"Providence and Worcester Railroad is continuing construction of its South Quay port in East Providence, Rhode Island. A consultant is conducting a study to evaluate specific market segments which are suited to the facility."

Place at end of section 5.4.2 on page 5-14 of Report and page ES-9 of Executive Summary.

(87 continued)

5. Also page 2-13, second last paragraph. It is misleading to say the fuel taxes paid by trucks puts them at a competitive disadvantage. The fuel taxes are intended to have the trucks pay some of the right of way costs incurred by the various governments to build and maintain the public roads. Railroads build and maintain their rights of way at their own expense so this cost shows up in their income statements as Maintenance of Way expenses rather than as Taxes. (91)

Very truly yours,

Harry A. Snyder

Harry A. Snyder
Director Special Projects

May 23, 1994

Marc Cutler
Cambridge Systematics
222 Third Street
Cambridge, Mass. 02142

Dear Marc,

Enclosed please find a compilation of comments from the environmental organizations of Rhode Island with regard to the Forecasting, Goals and Objectives and Issues document being written by the New England Transportation Initiative.

I.Suggested Corrections for Text:

P.I-1 Goal 3.

Take out or say exactly what you mean in the following sentence: "..... and that in doing so the regulatory process does not inordinately delay or hinder necessary investments which meet reasonable criteria." this language is far to open for interpretation. What is "reasonable", "inordinately" or "necessary" to the author may be completely unreasonable, timely and unnecessary to the environmental community. Are you for instance suggesting that environmental standards and regulations should be relaxed if transportation projects are "reasonable"? ㊁

Old Goal 4.

We are disappointed that no further attempt besides eliminating the jargon from the discussion of sustainable development was furthered. With so much other talk of "quality of life" elsewhere in the document it seems that the committee just gave up on coming up with a common goal for this idea. We believe it is the underlying reason for a study of this nature and urge the committee to try again. (93)

P.I-2 Goal 6.

Take out the sentence: " Given that New England is a relatively settled area with low population growth, the potential for modifying this pattern exists only at the margins." This is definitely the opinion of whoever wrote this sentence and it is not shared with any of the Growth Management organizations and certain regulatory agencies in New England. We must realize that population is not necessarily the driving force behind growth. Other factors are for example house hold size, vacation home construction, lending rates and speculative office park development, and investment in transportation infrastructure. (94)

SAVE THE BAY

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P. II-2 2.0 Highways

Change the last sentence in #2 to reflect that we need to reduce vehicle TRIPS not just EMISSIONS.

According to FHA by 2004 even if we increase highway capacity by 20%, congestion will be four times worse than it is today. Sixty five percent of all trips are non work related. In order to meet air quality standards mandated by the Clean Air Act we need to reduce vehicle TRIPS (not just vehicle emissions) by 50% by the year 2010. (95)

This means doing what we can to keep people from turning on their cars at all for recreational and shopping needs.

II.Scenarios

THE OVERRIDING CONCERN OF ORGANIZATIONS THAT COMMENTED ON THIS DOCUMENT WAS THE LACK OF INFORMATION CONCERNING THE TRUE COST OF TRANSPORTATION DECISIONS. HOW ARE WE TO CHOOSE OR JUDGE FUTURE PATHS IF WE DO NOT KNOW WHAT THE COSTS ARE?

1. Continuation of status quo and analysis of what that will mean to the environment, economy, quality of life. Cost anlysis.

2. Aggressive encouragement with tangible incentives to infill, compact, and mixed land use development, WITH A MECHANISM TO MEASURE GOALS OR RESULTS. Cost Analysis. (96)

3. Mandated urban growth boundaries around population centers of 100,000 or more. Transit options and corresponding subcities for within the boundary, no transit and no road subcities outside the boundary. Cost Analysis.

Enclosed are two documents for the Policy Committees perusal.
1. ZEV by Roy Poulsen
2. Road Kill by CLF

Sincerely,
Alison Walsh
Alison Walsh on behalf of
Environmental Groups of
Rhode Island

Comments on NETI Forecasting Executive Summary
From Janis Loiselle, Rhode Island DOT
Conveyed through telephone conversation with Elizabeth Peart, CSI
5/31/94

In Figures 5.8 through 5.10 in Draft Report, indicate where the monitoring station is in Rhode Island. (151)

In Figure 7.2, correct the "70 to 90" label. (152)

On Pg. ES-12, include individual state's consumption of transportation energy as was stated in the draft report. Also, off-road vehicles are a major contributor to VOx. (153)

Pg. ES-5, add ridership estimates on Providence to Westerly line which are between 3300 and 5000 riders per day. Also this service is not MBTA. (154)

The following were conveyed from Ray Dempsey through Janis Loiselle:

Pg II-2	Institutional Issue #2. One form of a public/private partnership would be the creation of a Objective Independent Review Board for proposed projects. (155)
Pg. II-2	Institutional Issue #5. NETI proposals should be integrated into each state's TIP process. (156)

Comments from Vermont

New England Transportation Initiative
Forecasting Report
Vermont Comments
May 25, 1994
Prepared by Richard Watts

Public Hearing Bennington
May 18, 1994

Public Hearing, Burlington
May 19, 1994

Vermont Core Advisory Meeting
May 20, 1994

Kristen Martinez, letter
May 20, 1994

Vermont Railway, letter
May 4, 1994

Bennington Banner, Article
May 19

Burlington Free Press, Article
May 20

Public Hearing
Bennington, VT
NETI Forecasting Report

Greg Burke: Adding the rural component is an important goal. Connections to Albany and west are the critical factors for Bennington. (97)

Pouring billions into the central artery project just to move cars through a city does not make sense. Plus the amount of dollars that it is tying up. (98)

Charlie Murphy: There needs to be greater access to the transportation system for people with disabilities. It is diffult to travel between modes in the transportation system. As the population gets older this needs to be considered. (99)

Question about consistency in signs. Question about forcing over-design standards on highways in rural areas like Vermont. (100)

Lou Schneider: Few key points in rural areas for the movement of goods and people with the population centers that everyone has to arrive at.Economic development and tourism and commuter patterns need to be examined.

Concerned that by 1996 went his study is done it will be too late and a whole new generation of transportation systems will have already been put into motion. (101)

Comment on the strength of a regional transportation coalition. Discussion on Vermont's objectives in this plan including no new highways, more rail connection between north and south and the re-building of the rail line in NH that will allow Amtrak to run that direction and perhaps another crossing of the Hudson. (102)

Burlington Public Hearing
May 19
NETI
Forecasting Report

Greg Voorheis: Prices for flights from Burlington to D.C. is ridiculous. (103)

Discussion of Logan as an international hub and shooting out more local flights to the regional airports. (104)

Art Hogan: Economics are not focused enough. Has this study looked at the regional tourism plans? IS manufacturing being written off to great a degree. Let's not write it off. Manufacturing jobs can still have a major impact on New England. (105)

This region is host to the enormous historic resources. This should be used in marketing New England. (106)

Discussion of the importance of telecommuting.

Greg Voorheis: Land use patterns. Study should consider growth center planning. (107)

Heath Riggs: Railroads should be busier and moving more goods. Only doing a fraction of the business they once did. (108)

George Gerecke: Trucking industry and railroad industry are in the same business but truckers unfairly subsidized in the damage they do to our roads. (109)

Question on assumptions behind employment growth rates. Question about fuel taxes. Discussion of lack of support for fuel taxes and the high amount they have to be to reduce VMT -- Europe example. "Can't punish drivers for driving." (110)

Maybe some movement in the study to standardizing the gas tax. (111)

David Smith: Impressed with the goals and objectives. Headed int he direction of a sustainable society. Retaining farms that support a lifestyle and a way of life. (112)

Take a good look at the growth trends in Vermont and try to have transportation investments that support those trends. (113)

Numbers said to be wrong on the Burlington Airport. (114)

Art Hogan: Northern natural gas much cheaper than Texas gas which serves Mass.. Again this report is light on what is really needed in the way of transportation to support our economic future. (115)

VT Advisory Core Meeting
May 20, 1994
NETI
Forecasting Report

Bruce Bender, Lloyd Robinson, Richard Watts, Charlie Repeat, Alan Davis, Greg Maguire, Chris Owen, Greg Voorheis, Marc Cutler

Bruce Bender: Changing nature of work should really be examined in the light of the future of the transportation network. Fax machines, service economy, single-family households, etc. (116)

Greg MaGuire: Comments about economic quality of life, VT moving to a service-based economy from a manufacturing base. Different models. Airports are more than commuting, critical for tourism purposes. (117)

Cris Owen: Airport reductions made up in telecommuting?

Greg Voorhies: Growth centers in rural places, assumed development in those growth centers, land use patterns.

Marc Cutler: Lead discussion of the overall project and key deadlines and dates.

Greg Maguire: Discussion of the role of Logan. Careful about being locked into Bradley as the second airport. Could be alright if just the stopping place on the way to elsewhere. But Burlington cannot sent traffic that would have gone to Logan as that is to far away.Needs to be a full range of connection from Bridle. Can't lose the ability of small planes to be priced out of Logan. (118)

And the problems of double-stacking into Bellows Falls. Want to be able to double-stack all across the state and not just in the south. Need to keep CP in New England and help pay for doing the necessary upgrades. (119)

Chris Owen: There needs to be more focus on energy in this study. Our region is in terrible shape as far as importing most of our energy needs and all of the transportation-related energy. (120)

There should be a push towards higher efficiency on a regional basis. Higher CAFE standards and continued support for intermodal transportation planning. In addition, there should be further discussion of the CAA requirements and what the 9-4 California OTC vote will mean for the region.The more efficient we can be with fuel usage the better off the region will be if supplies constrict. (121)
There is great interest in the state in the alternative fuels infrastructure. 60 people attended a recent conference in Burlington. CONEG is preparing a study of the alternative fuels refueling infrastructure in the northeast. Include in study.

Post-it™ Fax Note 7671	Date 4/20/94 # of pages ▸ 2
To Richard Watts	From Kristin Martinez
Co./Dept.	Co. RIDC
Phone #	Phone # 773-9147
Fax # 802-828-3710	Fax #

RIDC
Rutland Industrial Development Corporation

TO: Richard Watts

FROM: Kristin Martinez K

DATE: 5/20/94

RE: NETI

Due to several unexpected emergencies in Rutland, I will not be able to attend the NETI meeting today. Please pass these comments on to Lloyd and the group. They reflect comments of Dean Pierce of the Rutland Region Transportation Council as well as my own.

1) We are generally satisfied with the breadth of the issues addressed by the draft goals and objectives and with the breadth of the report overall.

2) In spite of our own personal enthusiasm for telecommuting, it is worthwhile noting that while this technology could help reduce trip making in urban and suburban areas in southern New England, it has the potential to increase the number of vehicle trips in the rural states--like Vermont--where many telecommuters relocate. The potential of this should at least be mentioned, and if possible, addressed to some degree. (122)

3) The relatively extensive discussion of the regulatory and institutional barriers faced by the trucking industry is interesting, but one might expect a similar discussion with respect to the rail industry. (123)

4) In spite of the proposed objective to coordinate land use and transportation planning, the discussion of the links between transportation and land use is thin. (124)

5) In Lloyd's 4/15/94 memo to the Policy Committee, he states that "With regard to economics we have discussed the fundamental shift in the NE economy from farming and manufacturing to service." I caution against discarding the importance and concerns of manufacturing. In Rutland County, for example, manufacturing jobs represent 21% of all jobs. In the State of Vermont, the percentage is somewhat lower, but I believe it is slightly higher than for New England and the national overall. (125)

Rather than write off manufacturing, we need to do everything we can to keep the percentage at the 20% level. That is one in five jobs. I would caution Lloyd against talking and thinking as though the 20% or the 18% or whatever it is do not have transportation needs that have to considered.

The new economic patterns described in the Executive Summary accurately describes the shift from heavy manufacturing to smaller, more decentralized, "lighter" industrial products with "just in time" delivery requirements. These products are often high value manufacturing products as well, and are extremely important to the future well being of Vermont. The transportation needs of this kind of manufacturing is two-fold. We still decent highways, as parts and finished products alike are often being shipped UPS or Federal Express. We also need efficient business air travel, as customers are often trying to travel into rural Vermont where many of these high value manufacturing products are being produced.

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6) The economics section of the Draft Report offers a balanced approach to the transportation needs of the region, correctly recognizing the importance of tourism, high value manufacturing, and service businesses as key ingredients. Each of these three requires a good interregional and intraregional transportation network and services, as the report spells out on page 7-12.

Richard, I am sorry not to be at the meeting. If we had a more efficient way to get to Montpelier, I would do it. In all honesty, I cannot afford 3 hours of driving today because there are too many other demands on my time. I hope my comments are useful. Please call me at 773-9147 if you have any questions.

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Telephone (802) 658-2550

May 4, 1994

Mr. Richard Watts
VT Project Director, NETI
General Services Center
US Route #2, Middlesex, Drawer 33
Montpelier, Vermont 05633-7601

RE: Response to May 1, 1994 memo/ New England Transportation Initiative

Dear Richard,

As requested, I have enclosed my comments on the above mentioned memo for your review and comment.

Summary:

I concur with your believe that the New England Transportation Initiative comes at an opportune time for Vermont and the Region. Particularly, how it relates to freight transportation by rail.

My general response and concern as to the report, is the lack of vision and actual impact of rail transport of freight within the state and the region. For example, on page ES-3 the report states that "forecasts for freight service do not exist", my question would be do we intend to rectify this as part of the report and provide these forecasts? (127)

Another issue is, (page ES-3): "approximately 27.4 million tons of freight are shipped on New England Railroads, of which 72 percent is destined for New England locations". Consider the possibility of that 27.4 million tons being transported on our highways. For example: (128)

Rail car:

- one standard rail car weighs an average of 123 tons/ 246,000 lbs fully loaded (assume 87 tons/174,000 lbs of product per car)
- 27.4 million tons product movement is equivalent to 314,943 rail cars

Truck:

- one standard semi-tractor trailer truck weighs approximately 80,000 lbs/ 40 tons fully loaded (assume 40,000 lbs/ 20 tons of product per truck)
- 27.4 million tons of product movement is equivalent to 1,370,000 semi-tractor trailer trucks yearly

The illustration as stated above is not a prediction, however, it clearly demonstrates the potential impacts of diverting product shipment away from railways. Furthermore, I believe that substantial effort should be made to increase the amount of products shipped over the existing rail system. It is estimated that Vermont Railroads are only performing at one third (1/3) of capacity. The potential clearly exists to move additional goods and services, i.e. bulk-break items, directly into the core cities of Vermont and then redistribute them by smaller trucks. (129)

Therefore, I would strongly recommend that the report address the lack of information of goods and services transport within the State of Vermont and the Region. The inventory information presented within the present report quantifies the amount of passenger cars and truck movement, however, it does not define what goods and services are transported and what mode they utilize. The state and the region clearly need to understand the transport of goods and services if they intend to develop an effective and long term multimodal system. I have taken the liberty of enclosing Vermont Railways position paper on ISTEA, it clearly demonstrates the need for goods and services information. (130)

Also included, is a 1979 Report to the Congress, "Excessive Truck Weight: "An Expensive Burden We Can No Longer Support" for your review and consideration. The report clearly demonstrates the impact of trucks on our roadways. For example: "Although a five-axle tractor trailer loaded to the current 80,000 - pound Federal Limit weighs about the same as 20 automobiles, the impact of the tractor trailer is dramatically higher. Based on Association data, and confirmed by its officials, such a tractor-trailer has the same impact on an interstate highway as at least 9,600 (2 ton) automobiles. Increasing truck weight causes an ever increasing rate of pavement damage." (131)

In conclusion, we applaud your efforts and look forward to hearing from you in regard to the recommendations made within.

Sincerely,

John Pennington

John Pennington
President

cc. Bruce Bender/ AOT
John Booth/ MPO